WHAT ARE PEOPLE **SAYING** ABOUT YOUR COMPANY?

GET AN ADVANTAGE ON YOUR COMPETITION BY INVESTING IN YOUR GROWTH AND PUTTING YOUR MARKETING DOLLARS TO WORK FOR YOU NOW!

We monitor social media for you to help your company achieve a variety of business objectives such as:

- Improved Product Marketing
- Customer Support
- Brand Loyalty
- Consumer Purchase Decisions

SOCIAL PERCEPTION collects near real-time social data from over 650 million sources from over 20 languages. We help you obtain a strong, coordinated social listening strategy. Engage today with the biggest influencers in social media that are TALKING ABOUT YOUR PRODUCT OR SERVICE.

SOCIAL PERCEPTION

PERCEPTION IS REAL

Advanced Social Media Data Mining

(864) 244-9861

www.SocialPerception.com

VISIT…

LANZAROTE
Caliente.COM

WRECK DIVING MAGAZINE

WRECK DIVING™
Magazine

...uncover the past

In This Issue

Drain the Oceans • Dreadnoughts • "Dunkirk Schooner" • *Emperor*
Oland • *President Coolidge* • *Russia* • SS *Pommerania* • Truk Lagoon

Wrecks of one of the great undersea wonders of the world
Ghost Ships of Truk Lagoon

A behind-the-scenes look at National Geographic's international top-rated television series
Drain the Oceans

In the Wake of Dreadnoughts

ISSUE 46 US$12.99

Issue 46
A Quarterly Publication

Modern Wreck Divers
are rewriting History

Discover how you may be a part of this
exciting future March 27, 28, 29, 2020
when Beneath the Sea 2020
convenes its 44th annual oceans,
travel, and dive expo at:

The Meadowlands Exposition Center
Secaucus, New Jersey
www.Beneath the Sea.org

SAVE THE DATE

BOSTON SEA ROVERS

EDUCATION, EXPLORATION & CONSERVATION

INTERNATIONAL OCEAN SYMPOSIUM & FILM FESTIVAL

2-DAY EVENT
MARCH 7TH & 8TH
2020

DoubleTree by Hilton Hotel
Boston North Shore
50 Ferncroft Road
Danvers, Massachusetts

For more information on Tickets, Speakers, Workshops, Exbhibitors, Location and more, visit BostonSeaRovers.com

Free Exhibit Hall With Scuba Equipment, Dive Travel & More • Free Parking
Free Discover Scuba Diving • Underwater Film Festival • Presentations • Kids Activities
Workshops • Special Exhibit • Marine Science & Conservation Public Forum • More

photo: © Chuck Davis

Contents

Departments

6 **WDM Book Reviews**

8 **From the Debris Field**

Features

16 A behind-the-scenes look at the top-rated National Geographic international television series
Drain the Oceans

22 The world's largest wreck you can dive from shore turned 75
President Coolidge

28 After helping passengers to safety, the heroic captain went down with the ship
SS *Pommerania*

32 The battleship that made all other battleships obsolete
In the Wake of Dreadnoughts

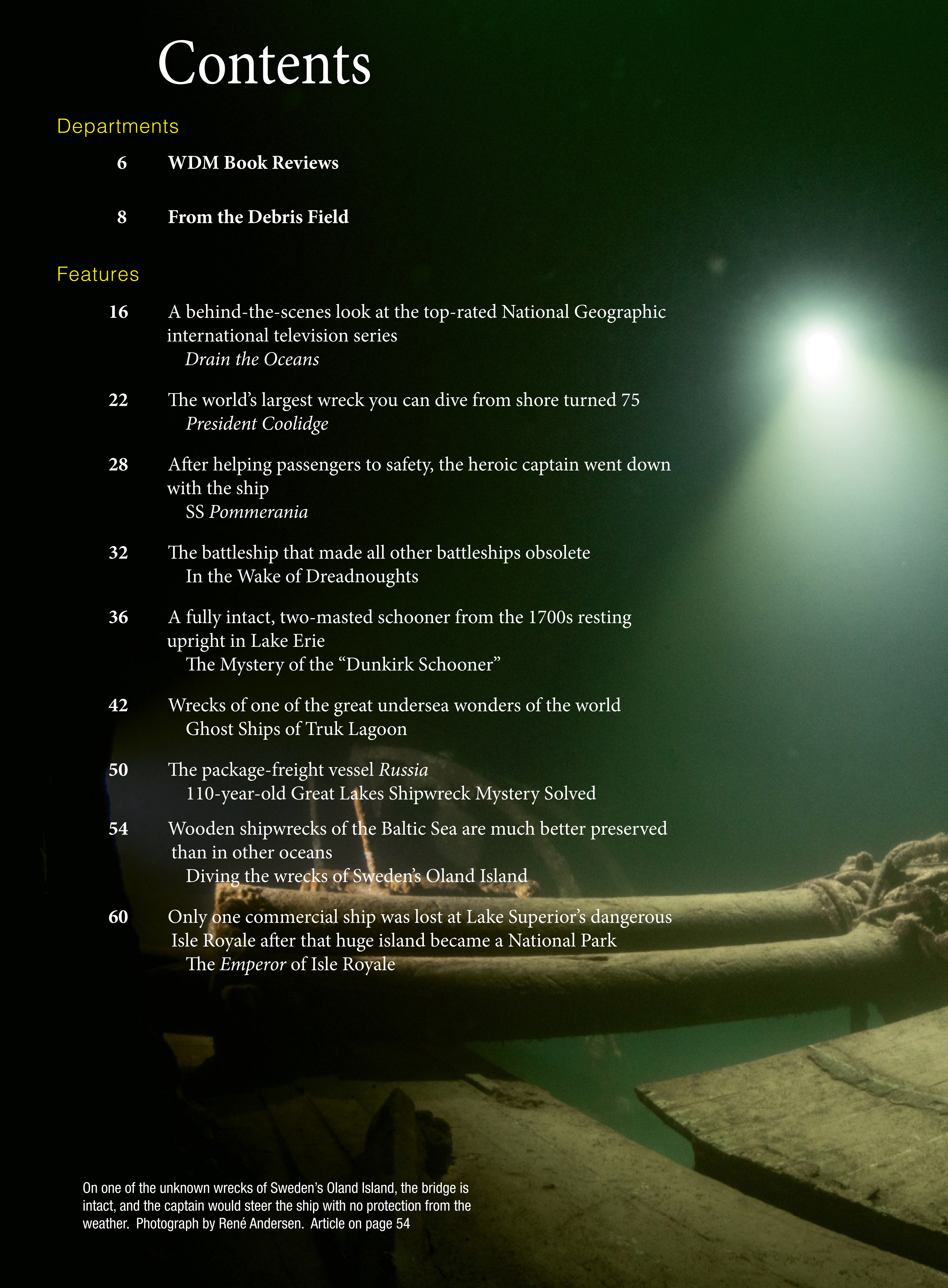
36 A fully intact, two-masted schooner from the 1700s resting upright in Lake Erie
The Mystery of the "Dunkirk Schooner"

42 Wrecks of one of the great undersea wonders of the world
Ghost Ships of Truk Lagoon

50 The package-freight vessel *Russia*
110-year-old Great Lakes Shipwreck Mystery Solved

54 Wooden shipwrecks of the Baltic Sea are much better preserved than in other oceans
Diving the wrecks of Sweden's Oland Island

60 Only one commercial ship was lost at Lake Superior's dangerous Isle Royale after that huge island became a National Park
The *Emperor* of Isle Royale



On one of the unknown wrecks of Sweden's Oland Island, the bridge is intact, and the captain would steer the ship with no protection from the weather. Photograph by René Andersen. Article on page 54

Published by:
Wreck Diving Magazine, LLC
P.O. Box 756
Taylors, SC 29687
(864) 244-9861   Fax (864) 268-1437

WARNING! The activities described in ***Wreck Diving Magazine*** carry a significant risk of personal injury or death. **Do Not** participate in these activities unless you are an expert, have obtained professional instruction and have been certified by a qualifying agency, are knowledgeable about the risks involved, and are willing to assume personal responsibility for all risks associated with these activities. ***Wreck Diving Magazine*** MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, OF ANY KIND REGARDING THE CONTENTS OF THIS MAGAZINE, AND EXPRESSLY DISCLAIMS ANY WARRANTY REGARDING THE ACCURACY OR RELIABILITY OF INFORMATION CONTAINED HEREIN. ***Wreck Diving Magazine*** further disclaims any responsibility for injuries or death incurred by any person engaging in these activities and/or using the information contained in this magazine for personal safety or for determining whether to attempt any dive, or activity described herein or travel to any destination described.

The views herein are those of the writers and advertisers; they do not necessarily reflect the views of ***Wreck Diving Magazine*** ownership. Manuscripts, photographs and correspondence are welcome. Unsolicited materials should be accompanied by return postage. ***Wreck Diving Magazine*** is not responsible for unsolicited materials. Please allow up to 10 weeks for the first issue after subscribing or for a change of address.

Heidi Porter
Circulation Manager
Heidi@WreckDivingMag.com

Ed Rodriguez
Art Director
Ed@WreckDivingMag.com

Charles George
Corporate Counsel
Charles@WreckDivingMag.com
Tel (404) 441-3100

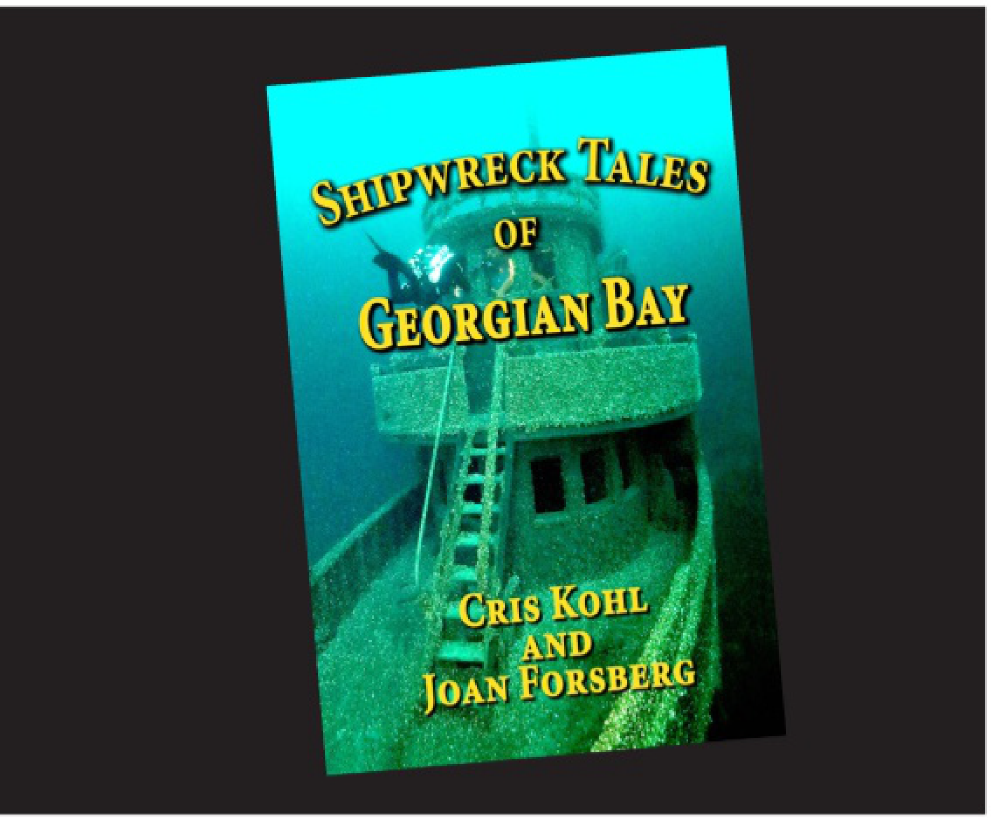
Joan Forsberg
Copy Editor

Joe Porter
Editor-in-Chief
Joe@WreckDivingMag.com

On the Cover: Diver Gary Townsend inspects a gas mask on the *Fujikawa Maru*. Photograph by Leigh Bishop. Article on page 42

WRECKommendations

Every issue, *WDM* gives readers a preview into books or videos that may be of interest to wreck divers. | **Review by Charles George**



Shipwreck Tales of Georgian Bay

By Cris Kohl and Joan Forsberg

Georgian Bay is situated in the northeastern arm of Lake Huron and is located entirely within the borders of Ontario, Canada. Georgian Bay is beautiful with rugged bedrock and white pine forests to the north, sandy beaches in the south, has more than 30,000 islands, and was formed by glaciers some 10,000 years ago at the end of the last ice age. The bay has clear, blue water, is quite deep, and is a huge body of water with almost as much surface area as Lake Ontario,with some calling it the "Sixth Great Lake." Georgian Bay is also rich with underwater maritime history that is slowly being revealed year after year.

Cris Kohl and Joan Forsberg, Great Lakes maritime historians, authors, and longtime friends of and contributors to *Wreck Diving Magazine* have written a new book about this wonderful place, ***Shipwreck Tales of Georgian Bay***. As with all of their books, this husband-and-wife team has written a well-researched and informative book that is fun to read and chronicles the rich maritime history of Georgian Bay.

Shipwreck Tales of Georgian Bay begins with a primer on the maritime history of Georgian Bay and moves on to detail the dramatic stories of the 12 most famous shipwrecks that lie submerged in Georgian Bay. ***Shipwreck Tales of Georgian Bay*** provides the reader with an excellent and detailed history of the various wrecks, and includes a discussion of the many lighthouses on the bay. From the 1600s to today, Georgian Bay has been and still is an important waterway for the transport of goods, passengers, and recreation.

The shipwrecks and their rich histories are examined in great detail by the authors, providing a vivid picture of many of these vessels and their history, the tragedy of their sinking, and for some vessels, the stories of discovery of the ships by expedition teams and wreck divers. From the elusive La Salle's *Griffon* lost in September 1679, the HMS *Nancy* lost in 1814, the *Arabia* lost in 1884, and the passenger steamship and package freighter SS *Asia* that was lost in heavy seas in 1882 with a loss of 123 lives and is the worst maritime disaster of Lake Huron. To this day, both the *Griffon and* the SS *Asia* are still waiting to be found. There are many more wrecks detailed in ***Shipwreck Tales of Georgian Bay*** with the authors providing a fascinating, well-researched portrait of these vessels, delivering readers an in-depth understanding of the final fateful voyages of these ships and detailing the eventual discovery of some of these underwater maritime treasures.

Shipwreck Tales of Georgian Bay is the product of over 20 years of research and many diving expeditions by Cris and Joan and is filled with outstanding photos and illustrations.

Shipwreck Tales of Georgian Bay is a wonderful historical guidebook that will appeal to wreck divers and non-divers alike. Georgian Bay is known for its shipwrecks, with divers travelling from around the world to experience the numerous, well-preserved wrecks in the area. If you are going to dive these wrecks or if you just want to learn more about these exciting and famous ships and Canadian Great Lakes maritime heritage, you will want to add this book to your library.

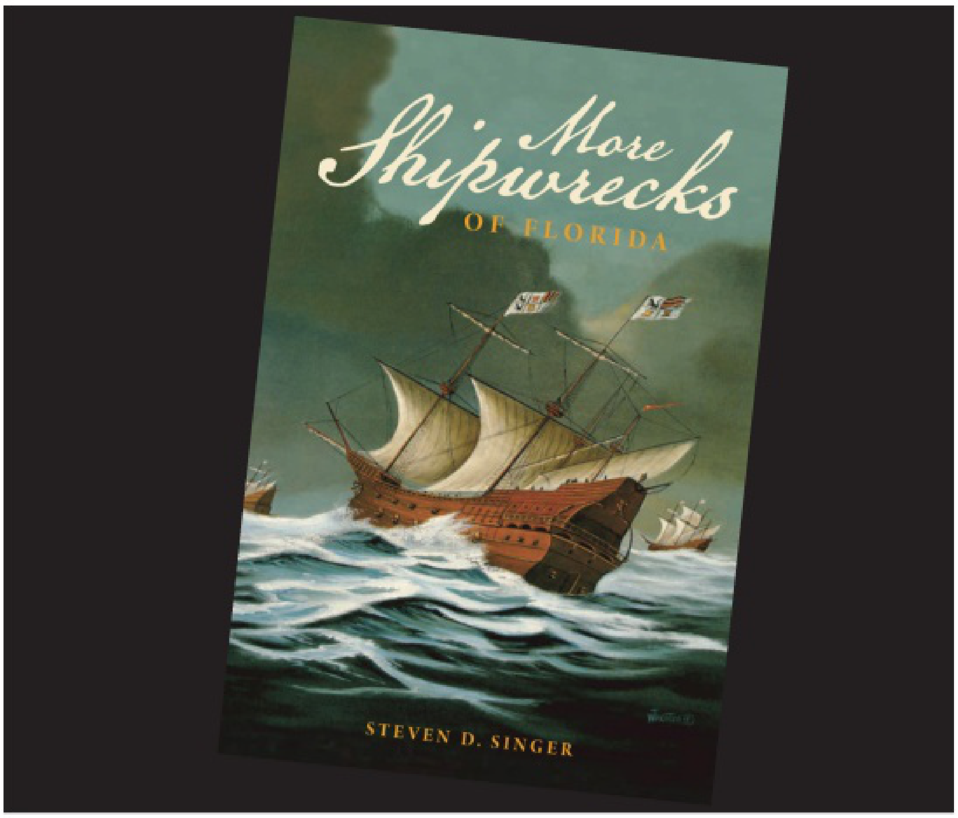
Paperback, 228 pages
Numerous Photos and Illustrations
Seawolf Communications, Inc.

More Shipwrecks of Florida

Written by Steven Danforth Singer

More Shipwrecks of Florida is Steven Danforth Singer's follow-up book to his previous book, ***Shipwrecks of Florida, 2nd edition,*** first published in 1998. Since that publication, new "technology and the internet" has "made research so much easier" for Singer and he has been able to add more than 1500 new wrecks to his comprehensive guide.

Steven Singer "has been diving for over 30 years, first in New Jersey where he grew up, and now in Florida, where he has been a certified scuba instructor and has worked on a number of archaeological and treasure salvage projects. He earned his Bachelor's degree in Environmental Science from New England College and has studied underwater archaeology at Nova University." Steven has been an "associate editor for *Treasure Quest Magazine* and writes for other



dive-related publications." His passion for maritime history is clear with ***More Shipwrecks of Florida***.

Singer has taken the time to write a book that gives the reader an excellent primer on the maritime history of Florida. From the Spanish galleons that sailed and wrecked in the Florida Keys and along the Treasure Coast, to the privateers and pirates that worked the waters around Florida, Florida Life-Saving Stations and the Wreckers of Key West made Key West the richest city in Florida at one time. Some of the stories are filled with pirate lore and tall tales but these stories are rather interesting and are a valuable part of the rich maritime history of Florida.

The Shipwreck Section of ***More Shipwrecks of Florida*** is where Singer lists the shipwrecks along with a brief description of the known vessel facts and, when available, GPS coordinates. If you are an amateur treasure hunter and/or a wreck diver, ***More Shipwrecks of Florida*** will definitely pique your interest and, who knows, you may venture down to Florida and go dive these sites and enjoy some of the most beautiful diving that the United States has to offer. This is truly home-grown wreck diving with no need to travel outside of the country.

More Shipwrecks of Florida is the resource you must have when you visit Florida!

Soft cover – 544 pages with numerous photos and illustrations

Published by: Pineapple Press
2803 Fruitville Rd
Sarasota, FL 34237

$28.95 Available at Amazon and Barnes & Noble

1 YEAR
for $24.95
– Zinio.com –
WRECK DIVING Magazine
Shipwrecks at the Top of the World
The Return to the Ancient Antikythera Shipwreck of Greece
Issue 39

Mobile traveler?
Go digital!

Digital editions are also available on
iPad®, Kindle Fire and Android™ tablets.

iPad is a trademark of Apple, Inc., registered in the US and other countries.
Kindle Fire and Amazon Kindle logo are trademarks of Amazon.com, Inc. or its affiliates.

4 EASY WAYS TO SUBCRIBE!
Digital Edition - zinio.com
SUBSCRIBE ONLINE AT WreckDivingMag.com
CALL (864) 244-9861
MAIL THIS COUPON

Start my 1 year / 4 issue Wreck Diving Magazine subscription for only $39.95

I am interested in WDM back issues. Please send me the following at $12.99 plus S/H:

Issues: ______________

Name

Address

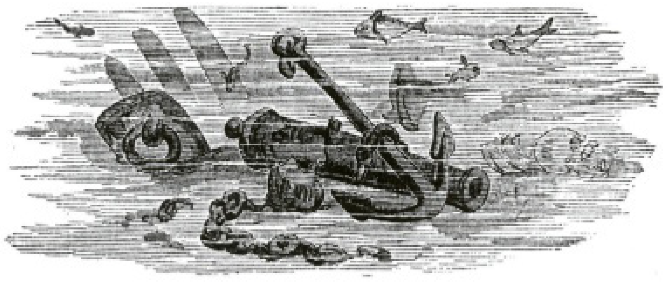
City/State/Zip

☐ Payment Enclosed Charge My: ☐ VISA ☐ MasterCard
☐ Discover ☐ American Express

Credit Card # ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Expiration Date ☐☐☐☐ ______________
Signature *Required

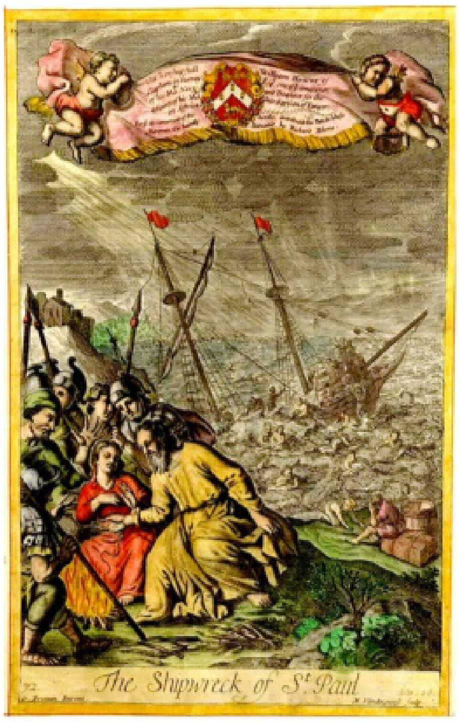
From the Debris Field...



By Cris Kohl

Wreck enthusiasts are invited to submit short pieces of information about a shipwreck currently in the news in their general area. Perhaps there is not enough information, or not enough archival and/or underwater images, to submit it as a full-length article, so this *From the Debris Field…* column becomes the ideal venue for a short piece. This, however, does not preclude it from becoming a full-length article in the future.

We welcome short, written submissions, ideally, but not necessarily, accompanied by a photo or two, for future issues of *Wreck Diving Magazine*. Please send them to joe@wreckdivingmag.com


The Shipwreck of S.t Paul

The shipwreck of St. Paul has appeared in numerous drawings and paintings over the centuries, this one published in the year 1701 for publisher/cartographer Richard Blome (1635-1705).
(Kohl-Forsberg Archives)

A Biblical Anchor?

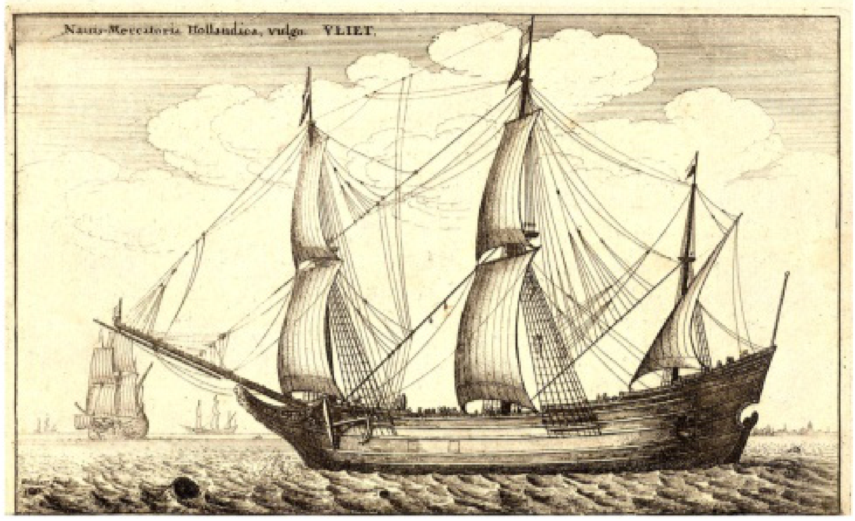
Several books have been written about the voyage and shipwreck during Biblical times of St. Paul, who, while traveling to Rome on a large cargo ship in about the year 60 A.D., was stranded and wrecked in a storm off the island of Melita (today's Malta), south of Italy, as related by Luke in the Acts of the Apostles in the New Testament. While no one died during this sinking two thousand years ago, eyewitness accounts of this shipwreck's location were not, unsurprisingly, handed down from generation to generation.

Since the advent of scuba diving in the mid-1900s, it appears that every diver visiting Malta has gone in search of St. Paul's shipwreck, particularly the four anchors that were reported to have been purposely abandoned to the angry seas at the time of loss. It also seems that bits and pieces of St. Paul's shipwreck have, over the past 70 years, been found with greater frequency than the wreck of the *Griffon* (1679) in the Great Lakes.

In September 2019, the Bible Archaeology Search and Exploration (BASE) Institute announced that an ancient anchor, one of four recovered years ago by local divers, fits the type of anchor perfectly that would have been used in that era (the other three anchors have not survived). The organization examined the evidence in terms of probability – since the four anchors were originally found in the same area.

However, a question mark lingers as to the actual location of the sinking, as another anchor with ancient inscriptions was found on the opposite side of Malta.

As with the *Griffon*, the search for smoking gun evidence continues!


Navis Mercatoria Hollandica, vulgo VLIET

A typical Dutch commercial vessel, with carvel-built hull construction, from the late 1500s.
(Kohl-Forsberg Archives)

Accidental Discovery of Old Dutch Wreck

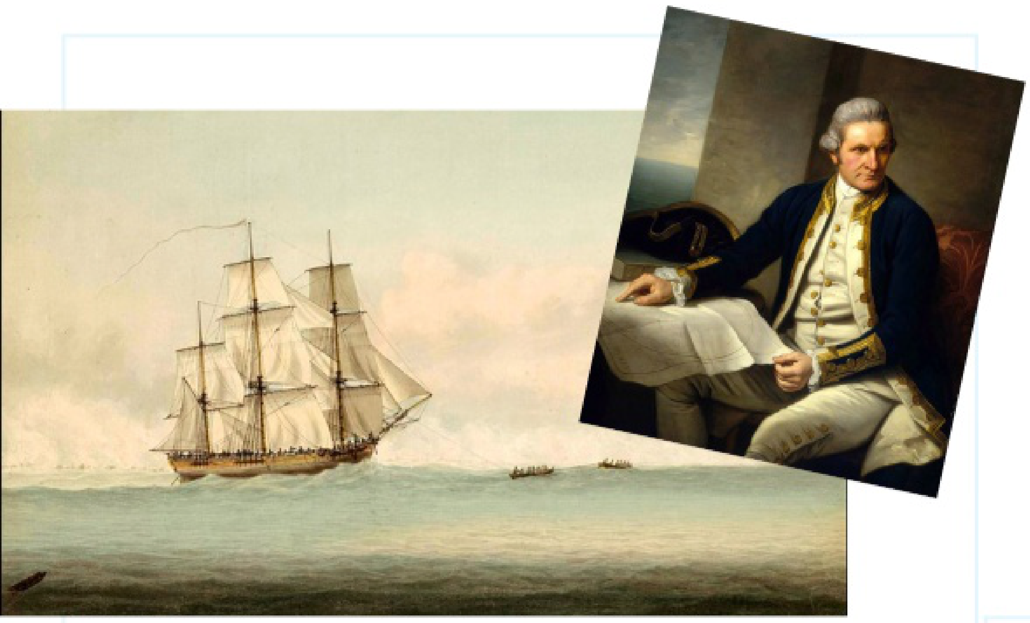
After 345 steel containers fell off the transport ship named the MSC *Zoe* in January 2019, in relatively shallow Dutch waters just north of Amsterdam off the island of Terschelling, a salvage team searching for them accidentally located a shipwreck dating back to the mid-1500s.

Because the recovered wooden beams and nearly five tons of its precious cargo of copper plates (made of the same type of copper that was used in Dutch coins from that period) could be dated back to the year 1540, the Netherlands Cultural Heritage Agency declared this to be the oldest discovery of a seafaring vessel in Dutch waters ever.

This shipwreck, lost a century before the Netherlands' "Golden Age of Seafaring," was a transitional vessel, when hull construction moved away from the clinker-type of overlapping planks to carvel-built hulls utilizing boards that sat flush and tight alongside each other.

Researchers determined that the wooden beams of the shipwreck were felled in the year 1536 (how such accuracy could be determined has not been publicized) and that the ship was constructed in approximately 1540. The copper plates bear the seal of the wealthy Fugger family, who, at that time, had a monopoly on copper production.

These spectacular artifacts, which were unveiled to the public in April 2019, have been called "an enrichment of Dutch heritage" by the Netherlands' Minister of Education, Culture, and Science. More archaeology is in progress.



Captain James Cook, the most noted of British South Seas explorers, commanded the barque, HMS *Endeavour*, on his first voyage there. (Kohl-Forsberg Archives)

Back: *Endeavour* was heavily damaged during a stranding on Australia's Great Barrier Reef in 1770, forcing an emergency tow to the mainland where the ship underwent seven weeks of repairs. Today, the remains of this historic ship lie in Rhode Island waters. (Kohl-Forsberg Archives)

Captain Cook's *Endeavour* in Rhode Island

The three-masted barque named HMS *Endeavour* gained eternal fame in 1768 to 1771 when the British Royal Navy research vessel sailed to "Terra Australis incognita," or "unknown southern land" (Australia and New Zealand) on Captain James Cook's first voyage of discovery.

Launched in June 1764 in England as a coal-carrier named *Earl of Pembroke*, the British Royal Navy purchased the nearly-100-foot-(30-metre)-long vessel in 1768 and renamed her HMS *Endeavour*. The ship first sailed to Otaheite (Tahiti) to observe the 1769 transit of the planet Venus across the sun. Subsequently the ship sailed to Bora Bora, Huahine, and other Polynesian Islands, allowing Cook, despite previous visits from Spanish, British, and French explorers, to claim those islands for Great Britain (a claim that failed to withstand the Anglo-French wars and rivalry of that era; plus, Tahitians liked the French, who respected their "noble savage" lifestyle, something that other European explorers did not do).

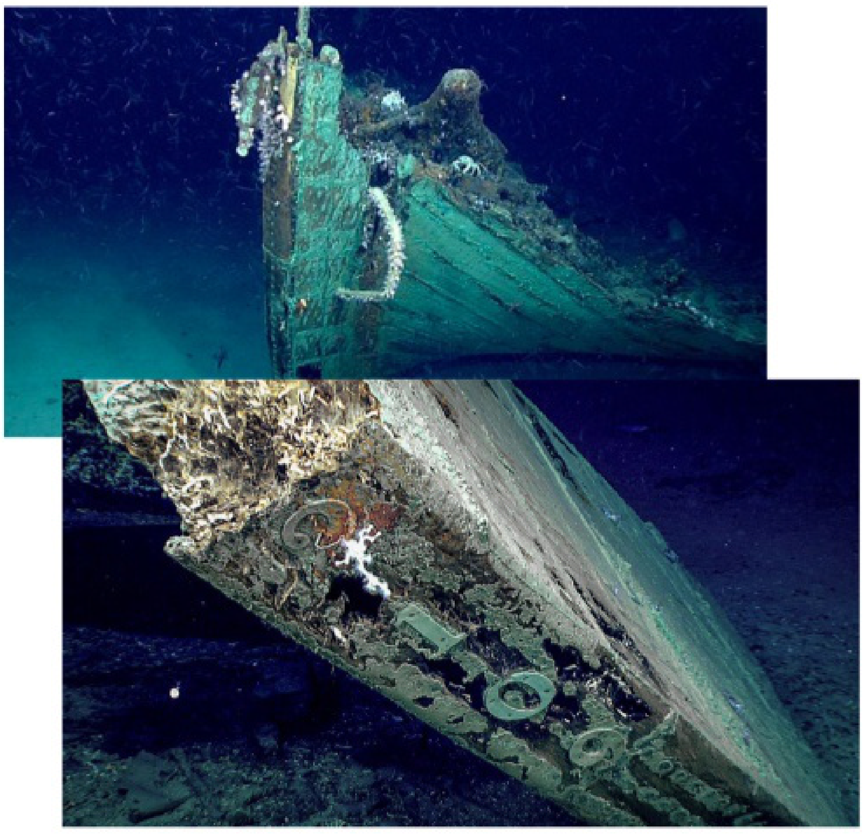
Cook, on board the *Endeavour* in late 1769, became the first European to visit New Zealand since Dutch explorer Abel Tasman was there in 1642, and, in April 1770, the vessel became the very first European ship to reach the east coast of Australia. *Endeavour* stranded on the Great Barrier Reef, losing a number of cannons and requiring seven weeks to repair.

Endeavour returned to commercial use in England after 1771, being renamed *Lord Sandwich* in 1775, and was rehired as a British troop carrier during the American Revolution.

Today, *Lord Sandwich*, formerly Captain Cook's *Endeavour*, lies in Rhode Island's Narragansett Bay, having been scuttled there with several other British ships in 1778 to avoid capture by American forces.

In September 2019, researchers with the Rhode Island Marine Archeaology Project narrowed the identification of these scuttled vessels in an attempt to identify *Lord Sandwich/Endeavour*. Underwater excavations included timbers, leather pieces, textiles, glass, ceramic, coal, and ballast, all of which are currently being conserved and studied, but the main evidence will come from the considerable construction and reconstruction information known about Cook's ship, while little is known about any of the others. For example, wood excavated from a ship's keel proved to be elm wood, exactly the kind of wood documented as having been used in *Endeavour*'s keel.

More information will be forthcoming, but in the meantime, visit the beautiful HMS *Endeavour* replica, built in 1993-1994, tied to the dock at the Australian National Maritime Museum in Sydney.



Back: The burned bow of a mid-1800s sailing vessel rises from the sandy bottom of the Gulf of Mexico. NOAA researchers found this wreck while testing equipment. (Photo credit: NOAA Office of Ocean Exploration and Research)

Forward: Brass numbers, "2109," are clearly visible along the rudder's trailing edge. It is hoped that this clue will someday identify this shipwreck. (Photo credit: NOAA Office of Ocean Exploration and Research)

Deep Gulf of Mexico Shipwreck Found

While testing equipment in the Gulf of Mexico in May 2019, shipwreck hunters unexpectedly found a shipwreck!

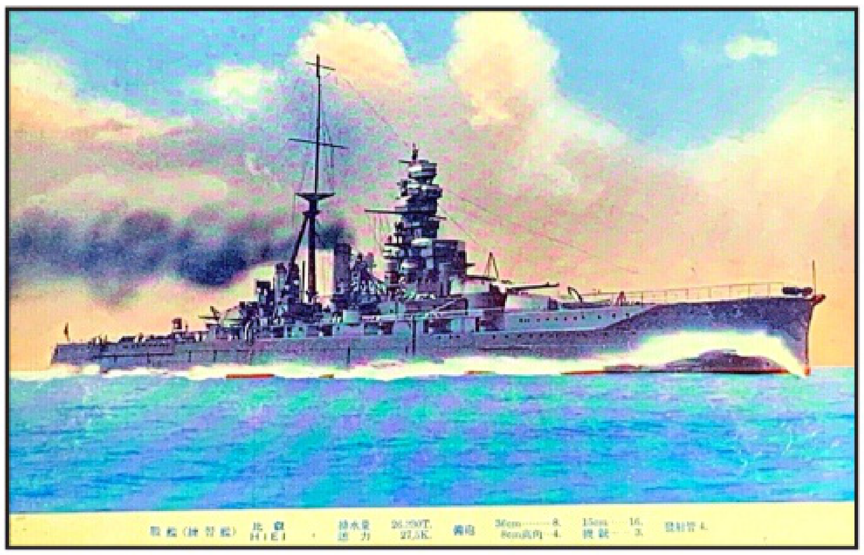
The NOAA Ship *Okeanos Explorer*, on a two-week testing and training expedition, conducted tests of new ROV (remotely operated vehicle) equipment and were surprised to find something in the shape of a shipwreck.

A team of archaeologists from distant areas was quickly assembled to "virtually participate" in the dives and offer observations about the shipwreck, the remains of which appear to be those of a wooden sailing vessel, approximately 124 feet (37.5 metres) in length, probably from the mid-1800s. Copper sheathing covers the bottom of its hull. Nothing exists of this vessel above the waterline, and there is evidence that this ship burned, which would explain the absence of any rigging, decks, or upper works.

Perhaps the brass numbers on the rudder will help identify this ship.

2019: Many World War II Wreck Discoveries

Discoveries of World War Two shipwrecks have exploded in numbers in recent years. All are historically significant. Here are some of the ones found in 2019:



The 30-year-old battleship, *Hiei*, launched in late 1912, played an important part the Imperial Japanese Navy during both World War I and World War II. (Kohl-Forsberg Archives)

HIEI

Early in the year 2019, the *Hiei*, the first Japanese battleship to be sunk by U.S. forces during World War II, was located in deep water off the Solomon Islands. The RV (Research Vessel) *Petrel,* which has been finding historic military wrecks in the Pacific Ocean in recent years, located the stern section of the upside-down wreck northwest of Savo Island: this 492-foot-(149-metre)-long section was found in 3,231 (985 metres) of water, while the bow portion, estimated to be 229 feet (69.4 metres) in length, has not yet been located. The *Hiei,* part of the strike force that attacked Pearl Harbor on December 7, 1941, was sunk on November 14, 1942, with the loss of 188 lives, after being damaged by a shell from the USS *San Francisco*, followed by multiple attacks by torpedoes and B-17 bombers.

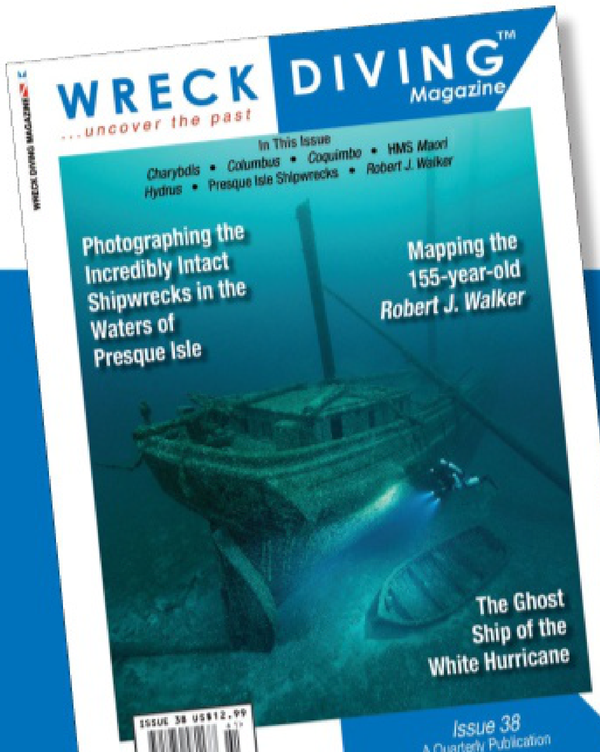
Back: The 331-foot-(101-metre)-long *Iron Crown*, launched in Australia on January 27, 1922, as the *Euroa* and renamed one year later, was carrying a cargo of manganese when it sank. (Kohl-Forsberg Archives)

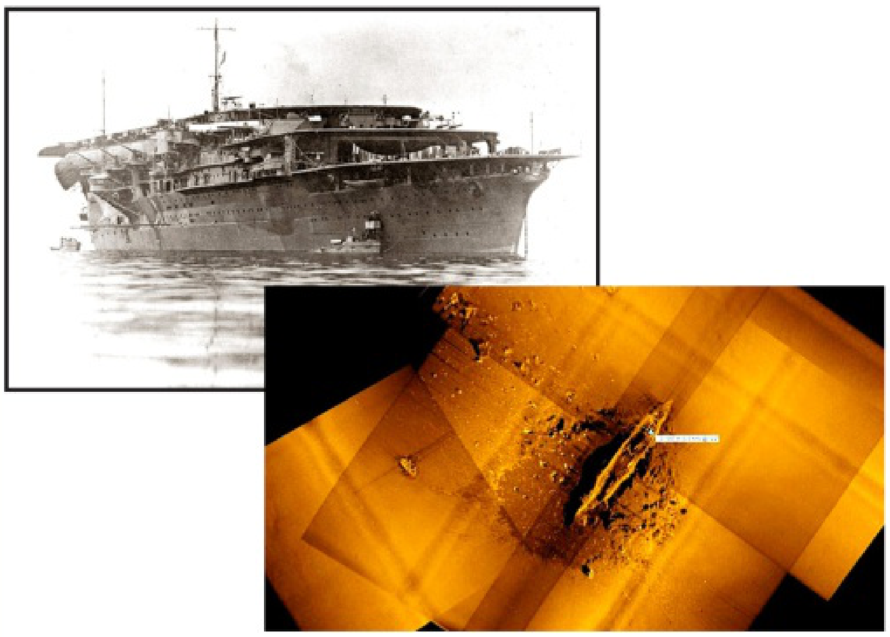
Forward: Now HERE is a vessel for finding shipwrecks! RV *Investigator*, built in Singapore and commissioned in December 2014, its home port being Hobart, Tasmania, measures 308 feet (94 metres) in length. The ship can accommodate 40 scientists at sea for up to 60 days at a time – unfortunately at operating costs estimated to be $140,000 each day! (Kohl-Forsberg Archives)

SS *IRON CROWN*

Australian freight ship SS *Iron Crown*, struck by a torpedo from Japanese submarine *I-27* on June 4, 1942, in the Bass Strait (between Tasmania and southeast mainland Australia) sank in less than a minute, taking 38 of its 43 crewmembers to the bottom. CSIRO (Commonwealth Scientific and Industrial Research Organisation) research vessel *Investigator* found the wreck in April 2019, sitting upright in 2,296 feet (696 metres) of water 62 miles (100 kilometres) off the State of Victoria coastline south of the border with the State of New South Wales (44 miles, or 71 kilometres, south-southwest of Gabo Island). The intact bow clearly displays railings, anchor chains, and both anchors still in position. A maritime archaeologist spokesperson with Heritage Victoria stated that the *Iron Crown* is one of only four World War II shipwrecks in Victorian waters, and the only one that had been torpedoed by a submarine in those southern waters so far from Japan. The five survivors of the *Iron Crown*'s crew were rescued by the larger SS *Mulbera* (British, 1922 – scrapped 1954).

Not a dive magazine for divers, and not a travel magazine for divers.


WRECK DIVING Magazine™
...uncover the past
In This Issue
Charybdis • Columbus • Coquimbo • HMS Maori
Hydrus • Presque Isle Shipwrecks • Robert J. Walker
Photographing the Incredibly Intact Shipwrecks in the Waters of Presque Isle
Mapping the 155-year-old Robert J. Walker
The Ghost Ship of the White Hurricane
Issue 38
A Quarterly Publication

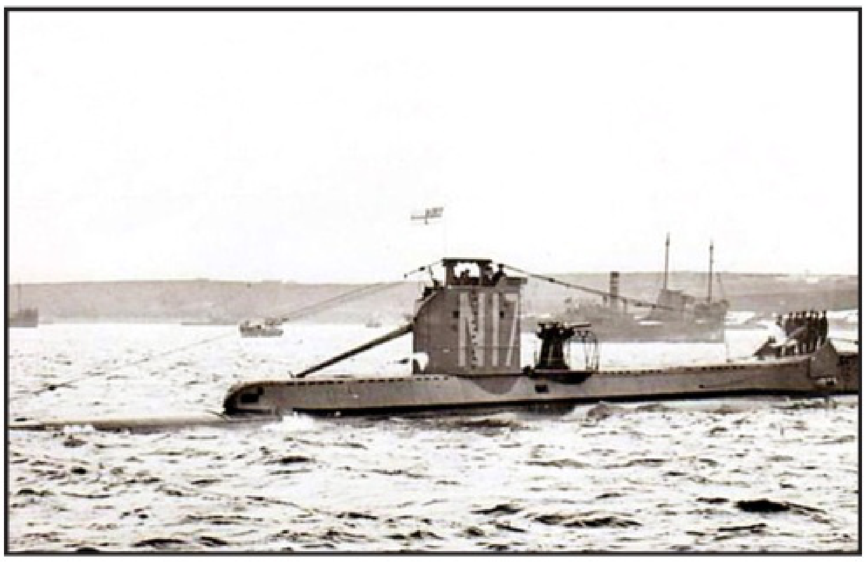


Back: The Japanese aircraft carrier, *Kaga*, was, like *Akagi*, an unusual-looking vessel in her early days. There were three separate decks for aircraft, and the smokestacks were horizontal, running parallel to, and just beneath, the uppermost level. These ships were modified to regular aircraft carrier characteristics by the start of World War II. (Kohl-Forsberg Archives)

Forward: It takes powerful side scan sonar equipment to produce a shipwreck image like this one of the *Akagi* and its vast debris field lying in about 18,000 feet (5,455 metres) of water – which is about 40% deeper than *Titanic*! (Photo credit: Paul G. Allen)

KAGA and *AKAGI*

Two Japanese aircraft carriers sunk hundreds of miles off Midway Atoll in the Pacific Ocean, about halfway between the U.S.A. and Japan, in the Battle of Midway in June 1942, have been located by the 250-foot-(76-metre)-long research vessel, *Petrel*, funded by the late Paul Allen, co-founder of Microsoft, to locate and document shipwrecks. The *Kaga*, launched on November 17, 1921, in Japan, measured 812 feet (248 metres) in length. After bombarding U.S. forces at Midway, *Kaga* and three other aircraft carriers were attacked by American airplanes; all the ships were sunk, with *Kaga* being purposely scuttled to prevent the vessel from falling into U.S. hands. RV *Petrel* found this upright wreck on October 17, 2019, in about 18,000 feet (5,455 metres) of water. The Japanese aircraft carrier, *Akagi*, launched in Japan on April 22, 1925, and measuring an enormous 855 feet (261 metres) in length, was so badly damaged by U.S. aircraft at Midway that the on-board explosions and resulting fires drove everyone from the vessel before it sank. The RV *Petrel* located the *Akagi* two days after it found the *Kaga*, in similar depth. Both the *Kaga* and the *Akagi* had played key roles in the attack on Pearl Harbor. The loss of four aircraft carriers at Midway, comprising two-thirds of Japan's fleet carriers, contributed significantly to Japan's ultimate defeat.



After a distinguished start to her wartime career, the British submarine, HMS *Urge*, disappeared with all hands somewhere between Malta and Egypt. The wreck was finally found in late 2019. (Kohl-Forsberg Archives)

HMS *URGE*

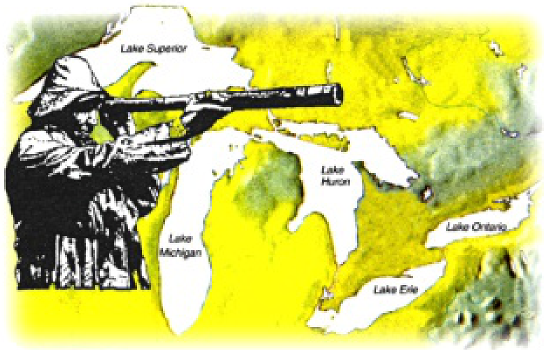
The British submarine, HMS *Urge*, left the island of Malta for Egypt on April 27, 1942, and vanished with all hands and without a trace. In late October 2019, a marine archaeology survey team from the University of Malta found the wreck of this submarine in 427 feet (130 metres) of water. The discovery team established the fact that HMS *Urge* had struck a German mine just outside the British submarine base at Malta. This negates a claim made in 2015 that the wreck had been located off the Libyan coast. The town of Bridgend in England had contributed an enormous sum of money to help pay for military vessels, and had adopted the submarine HMS *Urge*, offering memorials over the years in their town.

In the next "From the Debris Field" column: Recent World War I Shipwreck Discoveries, More Recent World War II Shipwreck Discoveries, and how the oceans seem to be floating away in more Vintage Shipwreck Booze.

*We are not any of these things, **we are all of them!** We are, and have been for over the last decade, a magazine about the interests, the curiosity, the passions of divers. Subscribe today, we challenge you to...uncover the past!*

SUBSCRIBE TODAY!

www.WreckDivingMag.com
heidi@wreckdivingmag.com



Great Lakes SHIPWRECKS
BOOKS • DVDs • MAPS
by Cris Kohl and Joan Forsberg

NEW!

Shipwreck Tales of Georgian Bay

Our 18th book! Exciting tales of shipwrecks, some still lost (such as the *Asia*), some newly-found, dramatic shipwrecks, such as the *Jane Miller* (lost with all hands in 1881), the *J. H. Jones* (lost with all hands in 1906), and the *Manasoo* (sunk in a 1928 storm with 16 lives lost). And others! Update on the *Griffon*, including both authors' adventures with TV's "Expedition Unknown." 228 pages. 6" x 9". 350+ b&w photos. Shipwreck drawings. Maps. Bibliography. Index.

$19.95

Great Lakes Shipwrecks
New Discoveries and Updates

This is the COMPANION BOOK to the large, popular *The Great Lakes Diving Guide* which doesn't include the 100+ shipwreck discoveries made recently. This book continues the tradition of providing historic details of each new shipwreck discovery in all five of the Great Lakes in both the USA and Canada, plus info about the shipwreck site today, e.g. depth and location coordinates. Plus updates on 200+ earlier shipwrecks, and many fascinating underwater photos by an exciting new generation of aquatic explorers! 224 pages. 6" x 9". 500+ b&w photos. Shipwreck drawings.Maps. Bibliography. Index.

$12.95

The Great Lakes Diving Guide

The "bible" or encyclopedia of known shipwreck sites in all five of the Great Lakes in both the USA and Canada! 1000+ shipwrecks: their histories, their location coordinates. Special features include the zebra mussel invasion of the lakes, shipwreck conservation, and hunting for Great Lakes shipwrecks. 608 pages. 6"x 9". 1200+ photos. 170+ shipwreck drawings. Maps. Bibliography. Index.

$24.95

Canada's 150 Most Famous Great Lakes Shipwrecks

A Canada 150 Project!

Here are the most famous shipwrecks on the Canadian side of the freshwater seas. Some are tragic, like the *Edmund Fitzgerald*, some, humorous, like the booze ship that stranded on Lake Erie during Prohibition. Daring rescues and incredible survivals! The ship that was built to find the Franklin Expedition; the most destructive storm in Great Lakes history; War of 1812 shipwrecks; the most in-demand, submerged shipwreck in the world; and MUCH MORE! 224 pages. 6"x 9". 400+ photos. Plus: Shipwreck Drawings. Maps. Bibliography. Index.

$19.95

The Christmas Tree Ship

The schooner *Rouse Simmons* is the most famous Christmas story from the Great Lakes! New research about this ship's history and final, tragic voyage in 1912, its jovial captain, his amazing family, the discovery of the shipwreck in 1971, striking underwater photos, and more! 128 pages. 6"x 9". 70 color and 80 b&w photos. Bibliography. Index.

$17.95

Diver's Guide to the Kitchen

A "cook-and-tell" book: 60 unique recipes with 60 fascinating stories behind them -- some touching, some hilarious! -- from 60 famous figures in the scuba diving world. About one-third are from the Great Lakes region. Nice balance -- only a few recipes are seafood! Biographies. 128 pages. 115 photos. Index

$12.95

The Wreck of the GRIFFON
The Greatest Mystery of the Great Lakes

In 1679, the first ship to sail on the upper Great Lakes disappeared with its entire crew and valuable cargo of furs, nearly ruining the explorer, La Salle. More than 335 years later, the wreck of the *GRIFFON* has not definitively been found. It has become the most hunted -- and the most claimed "found" -- shipwreck in Great Lakes history! Read the fascinating *GRIFFON* story: its background, the many (20+) claims of discovery made in the past 200 years (none yet proven) -- and where the wreck likely is. 224 pages. 6"x 9" softcover. 100 color images. 110 b&w images. Maps. Drawings. Bibliography. Index.

"...You both did a wonderful job on your research and especially your writing,...." – Clive Cussler

$19.95

TITANIC, The Great Lakes Connections

This book is a perennial favorite in the Great Lakes. Previously untold stories of survivors bound for the Great Lakes -- why they survived and others didn't. The Great Lakes writer who predicted *Titanic's* loss. Effects upon Great Lakes shipping, such as the *Eastland* disaster's 844 lives lost! Much more! 319 pages. 100+ b&w photos. Bibliography. Index.

$16.95

Shipwreck Maps

"Canada's 150 Most Famous Great Lakes Shipwrecks" 18" x 24" -- $12.00

"Lake Superior Lighthouses & Shipwrecks" 18" x 24" $12.00

Not pictured, but also 18" x 24," $12.00 each:
"The War of 1812 on the Great Lakes"
"Lake Huron Lighthouses & Shipwrecks"
"Door County (Wisconsin) *Lighthouses & Shipwrecks"*

Shipwreck *Documentaries* on widescreen DVD -- $14.95 each

- **DVD116** "Shipwreck Tales of Georgian Bay"
- **DVD115** "The Wreck of the *GRIFFON*"
- **DVD114** "The Great Storm of 1913"
- **DVD113** "Point Pelee Shipwrecks"
- **DVD112** "The War of 1812 on the Great Lakes"
- **DVD111** "*TITANIC*, The Great Lakes Connections"
- **DVD110** "Shipwreck Tales of Chicago"
- **DVD109** "Shipwrecks off Whitefish Point"
- **DVD108** "Thirteen Shipwrecks, The Worst Disasters"
- **DVD107** "Exploring Canada's Gr. Lks. Shipwrecks"
- **DVD106** "Deep Shipwrecks of the Great Lakes"
- **DVD105** "Shipwrecks at Death's Door"
- **DVD104** "The Shipwrecked Whalebacks"
- **DVD103** "Tales of Great Lakes Shipwreck Pairs"
- **DVD102** "Great Lakes Shipwrecks of the World Wars"
- **DVD101** "Shipwreck Tales of the Great Lakes"

---

www.SeawolfCommunications.com
Credit Card Orders Accepted.

BOOKS autographed by the author(s) will be sent upon request with each order at no additional charge.

In the USA, please add $5.00 for shipping per order.* Books/DVDs only
In Canada, please add $10.00 for shipping per order.* Books/DVDs only.
*Shipping is FREE for 4 or more books/DVDs per order (USA & Canada only)
NOTE: MAPS are shipped in tubes with different shipping fees. Please call.

In the USA: Seawolf Communications, Inc.,
PO Box 66, West Chicago, IL 60186
Telephone: 630-293-8996

In Canada: Seawolf Communications, Inc.,
200-3388 Sandwich St., Windsor, ON N9C 1B1
Telephone: 519-915-9016

Prices are in US funds. Some prices are slightly higher in Canada. Availability, Prices, and Shipping Policies subject to change.

Producing the finest Great Lakes SHIPWRECK BOOKS, DVDs, and MAPS
USA: 630-293-8996 CANADA: 519-915-9016 Email SeawolfRex@aol.com

HII

Hydraulics International, Inc.

PORTABLE BOOSTER SYSTEMS

INCREASE SYSTEM REFILL CAPACITY up to 50% and ELIMINATE CASCADING

Primary use for filling or topping off...

- ReBreather Bottles
- Bail-Out Bottles
- SCUBA Bottles
- Nitrox Systems
- Trimix Systems

Even if your source gas pressure drops below 200-psi

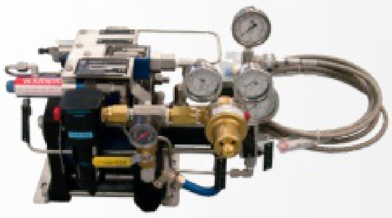
ELECTRIC DRIVEN
SERIES 2G

Weight: 145-LBS

Dimensions: 32"L x 11.5"H x 20"D

Noise Level: 60-dBa

Double acting or 2-stage design uses no belts or pulleys



PNEUMATIC DRIVEN
SERIES HIHPG3

Weight: 40-LBS

Dimensions: 20"L x 12.5"H x 11.5"D

Noise Level: 78-dBa

PNEUMATIC DRIVEN
SERIES HIHPG4

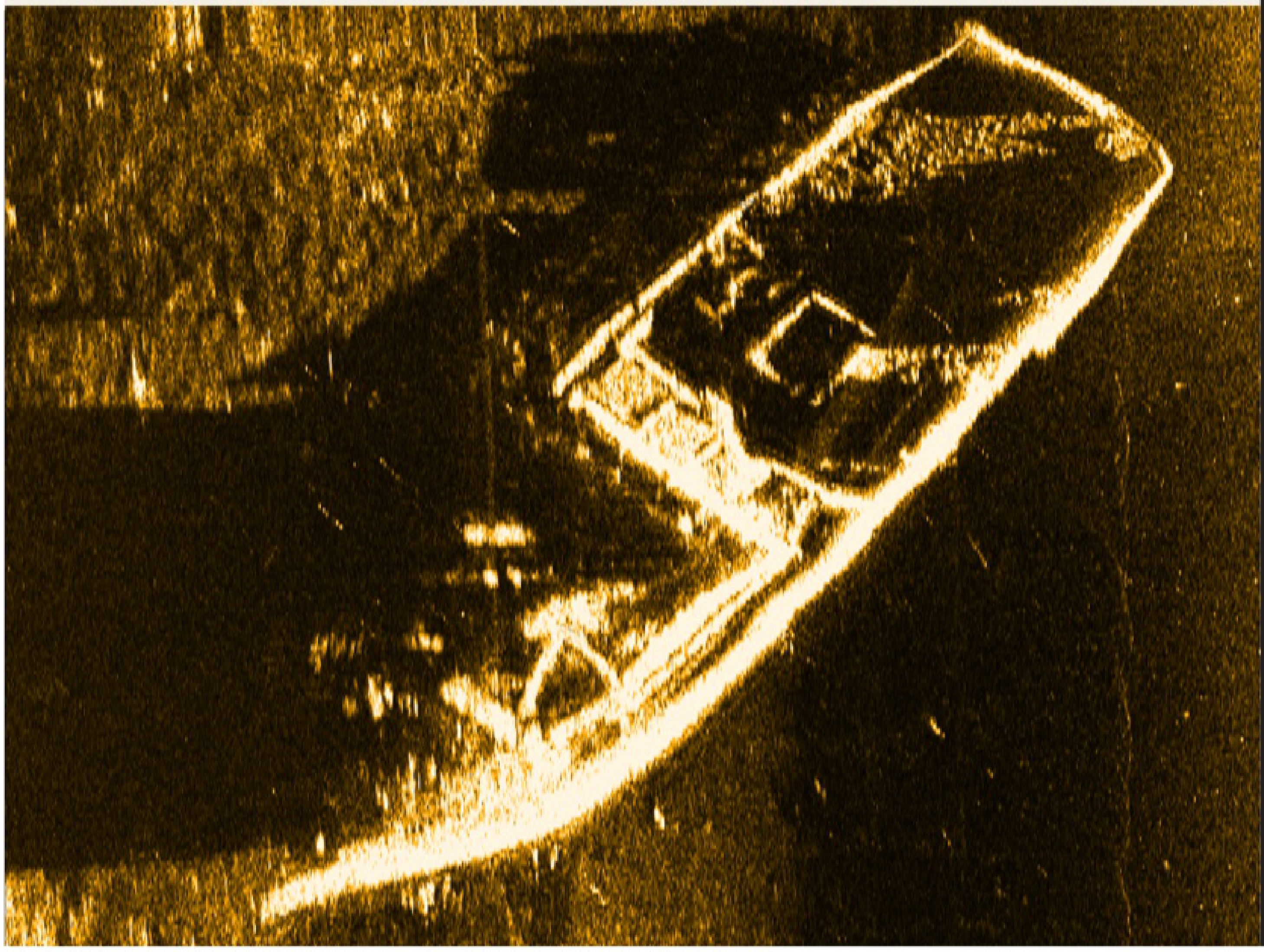
- Watertight enclosure on wheels & retractable handle
- Integral hand pump assembly
- High-pressure air controls (5-foot hose with regulator and on/off valve)
- Oxygen fill accessory kit (inlet 5-foot hose with CGA-540 connector and outlet 5-foot hose with filter, gauge, on/off valve, bleed valve and CGA-540 connector)

Hydraulics International, Inc.
9201 Independence Ave., Chatsworth, CA 91311 USA
(Phone) 818.407.3400 | (Fax) 818.407.3428
www.hiigroup.com

HYD-3334

Remove the water

with the help of a JW Fishers Side Scan Sonar



- Simple to operate
- Up to 2,000' range on each side
- Displays images on laptop or tablet
- Single or dual frequency fish
- 500' depth capability
- Commercial construction
- Starting at $20,995

JW FISHERS

JW Fishers Mfg., Inc
(800)822-4744
(508)822-7330
Email: info@jwfishers.com
www.jwfishers.com

SHEARWATER
Powerful • Simple • Reliable
FUNC
INFO
SHEARWATER
MENU
LIGHT

TERIC

The Teric is the only watch for
all your diving needs

Scan to find a dealer near you. | www.shearwater.com/teric
#diveshearwater

LOOKING FOR SHIPWRECKS?

Shipwreck: SS Portland
sank November 26, 1898
off the New England coast.

Klein's premium side scan sonar produces the clearest images. To learn more, visit KleinMarineSystems.com

KLEIN

The Difference Is In The Image

KLEIN *MARINE SYSTEMS, INC.*

MARITIME LAW GROUP

GEORGE LAW FIRM

An Admiralty Law Firm

Areas of practice include:

- Abandoned Shipwreck Act
- Salvage
- Scuba and Commercial Diving Accidents
- Treasure Hunter Representation and Litigation

Maritime Law Group
PO Box 354
Mount Pleasant, SC 29464-0354

Charles A. George, Esq.

www.MariTimeLG.com

We do WRECK DIVING RIGHT!

DOUBLE ACTION
DIVE CHARTERS

GO -BETWEEN
PORT SANILAC & HARBOR BEACH

SEAQUEST II
HAMMOND, IN

ALMA
MILWAUKEE, WI.

Plan Your
Perfect
Dive
Adventure
With Us!

Easy Online
Booking &
Calendar

Scuba Dive
Lake Michigan
and Lake Huron

Multiple Locations
...Multiple Dive Sites!

For Reservations
(815) 600-7090
For More Information
www.DADiveCharters.com

BLUE STEEL®

BLUE STEEL® ON YOUR BACK OR AT YOUR SIDE,
A NAME AND PRODUCT YOU CAN TRUST.

Blue Steel Scuba® is pleased to announce the availability of HDG (hot dip galvanize) steel scuba cylinders manufactured by Faber®. As the leading manufacturer of steel scuba cylinders the new HDG cylinders will meet the tough demands of technical divers by expanding the product selection which includes Faber's already proven quality Hot Zinc Sprayed painted cylinder. In addition to the new HDG finish, all cylinders will continue to offer Faber's exclusive phosphatized-cleaΩed internal service providing the best internal finish in the market today.

Proving once again that if it is Steel ....It has to be Faber®.

For more information and a dealer near you:
Toll Free 1-877-434-8325 Fax 724-239-2555

www.BlueSteelScuba.com

FXG Series
Hot Dip Galvanized Steel

BEHIND THE SCENES WITH *DRAIN THE OCEANS*

James P. Delgado

AMIRA
GRAF SPEE HIT PROFILE
GRAF SPEE HIT PROFILE STARBOARD

Jim and Uruguayan businessman Alfredo Etchegaray examine battle damage to the German pocket battleship *Graf Spee* as they approach the wreck site off Montevideo, Uruguay, in 2019.

Imagine what you could see if we were to drain away the oceans to reveal what lies beneath them? That simple premise, first asked as a question to television executives several years ago, led to the top-rated National Geographic international television series, *Drain the Oceans*. Created by British filmmaker Crispin Sadler, the show aired its second season in 2019. Its origins date back to an initial special, "Drain the Great Lakes," which Crispin and Canadian filmmaker Wayne Abbott created for National Geographic and Discovery Canada. It aired in 2011. As National Geographic summarized it, using data collected from years of surveys, the special employed computer graphics to show what would be revealed "if all the water were to suddenly disappear from Lake Superior, Lake Michigan, Lake Huron, Lake Erie and Lake Ontario."

Featuring underwater footage, and speaking to experts, including veteran wreck diver and explorer Tom Farnquist as well as Russ Green from Thunder Bay National Marine Sanctuary, "Drain the Great Lakes" was an instant hit, combining accurate data, exceptional computer graphics, and fast-moving interviews with underwater and surface footage. I'm sure that *Wreck Diving Magazine* readers remember the stunning reveal as the water "drained" to show the wreck of *Edmund Fitzgerald*, its two broken halves, one upside down and once again exposed to the human eye. It was dramatic but the drama was real. The hulk of *Edmund Fitzgerald* and its surrounding lake bed landscape were shown accurately.

The show resonated not only with those of who have experienced the underwater world, but with the non-diving public. As I've heard from many people, they "get" what compels us all to go into that submerged world and see what lies beneath the water. That appealed to network executives. The success of "Drain the Great Lakes" led to a new commission for yet another special, "Drain the *Titanic*." That's where I first met Crispin Sadler. National Geographic executives had suggested that we talk. The team at Nat Geo had suggested it because I had a long history of involvement, much of it behind the scenes, with *Titanic*. I'd dived it with the Russians in 2001 in the *Mir* submersibles, and I had served as Chief Scientist for the complete mapping of the *Titanic* wreck site in 2010, working with RMS *Titanic*, Inc., Woods Hole Oceanographic Institution, the National Park Service, and the National Oceanographic & Atmospheric Administration. I'd also worked with National Geographic's editorial team as they'd prepared a *National Geographic Magazine* cover story and other media surrounding the 100th anniversary of *Titanic*'s sinking in 2012. I knew the wreck, but I guess more importantly, I knew the various people, and I also was known for my advocacy in sharing wrecks and history with the public.

From 2000 to 2006, I had the privilege of hosting the National Geographic International television series *The Sea Hunters* with Clive Cussler. In six seasons, we spanned the globe, working with various teams as they found, explored and learned about amazing shipwrecks. The premise was not only Clive's "true adventures with famous shipwrecks," but also a commitment to work with and highlight the work of others – wreck divers, archaeologists, scientists – who were out there doing the work. Only occasionally did we as a team go out to find something on our own. The pilot episode was working with wreck hunter Graham Jessop, producer John Davis, and veteran diver Mike Fletcher to find the wreck of *Carpathia*, the ship that had rescued *Titanic*'s survivors.

"Drain the *Titanic*" featured the data but also the 2010 team – expedition leader Dave Gallo of Woods Hole, Bill Lange, who had co-directed the mapping as the head of Woods Hole's Advanced Imaging & Visualization Laboratory, and from RMS *Titanic*, the team from the *Titanic* Mapping Project, Paul-Henri Nargeolet, Ken Vrana, Robert Goodwin, Bill Sauder, and Alexandra Klingelhofer, as well as scientists Roy Cullimore and Lori Johnston, who have been studying the bacteria that are slowly consuming the steel of *Titanic*'s hull. Using the data from the 2010 mission, the special literally brought *Titanic* to light in a new way, but importantly, it also underscored the essential fact that it takes a team. That sometimes gets lost in the world of exploration and "discovery."

Credit for this approach is due to Crispin Sadler. Crispin knows wrecks, he knows diving, and he understands the role of teams. From his home base in Bristol, England, Crispin has worked for years in the film industry. Initially working on wildlife documentaries, the siren song of the sea and shipwrecks increasingly called to him. Among his credits are the UK series *Deep Wreck Mysteries*, as well as *Submarine Mission Impossible*, which told the story of the Australian submarine *AE2* and its role in the WWI Gallipoli campaign in Turkish waters. His film focused on the rediscovered wreck, and worked with the Turkish and Australian team of divers who had found and were documenting the sub's wreck.

DR. JAMES DELGADO
#DrainTheOceans

Jim Delgado talks about surveying New York harbor on board a NOAA Coast Survey boat for "Drain New York."

Crispin and his business partner, Simon Mallinson, formed Bristol-based Mallinson Sadler Productions (MSP) in 2002. Their work has resulted in more than the films; they've won four gold medals at the New York Film Festival, and in 2016, Crispin received a lifetime achievement award from Britain's Maritime Foundation. In 2019, MSP received a special award from the Maritime Foundation for *Drain the Oceans*. The Maritime Foundation awards are a special tribute to Crispin, his partners, and his team as they come from a community whose stories they tell on film. The 2019 award was presented to MSP by Admiral Tony Radikin, the First Sea Lord of the Royal Navy.

"Drain the *Titanic*" was a success. National Geographic then commissioned MSP to develop four specials. MSP teamed once more with Wayne Abbott to produce "Drain World War II," "Drain Alcatraz," "Drain the Sunken Pirate City," (Port Royal, Jamaica) and "Drain the Bermuda Triangle." All were a success. They featured real-life explorers and scientists, on-site filming, archival footage, and amazing computer graphics that again drew from the data

Jim analyzes dive data and discusses it for *Drain the Oceans'* episode on the amazing deep sea wreck discoveries of Paul Allen's R/V *Petrel* team.

to reveal shipwrecks, drowned cities, undersea geological marvels, and share them with the world. Crispin and I had stayed in touch, and as the shows were commissioned, he asked for advice on who was best to contact, and story ideas that would help make the specials stand out. Crispin and MSP have my complete trust, and so it was a pleasure to introduce them to friends and colleagues. I also appeared as a "talking head" in the specials, which aired in 2016.

The success of the specials led to a commission for a series. I remember when Crispin phoned with the news. I had just retired from government service with NOAA, and relocated to Jacksonville, Florida, to join SEARCH, Inc., the largest cultural resources company in the United States. I joked that we were now in the position of being the dog that always chased the car down the street, and now we'd caught it. It was time to buckle down and start making a series of films, not one episode at a time, but simultaneously. More people and new partners were needed given the large scale of the task ahead and the need to field multiple teams in the field. Another veteran filmmaker, Phil Craig, became the new, London-based partner of MSP. Phil later wrote about the back story of what it takes to get a series going. "My friend Crispin Sadler spent six years making six single episodes of Drain, laboriously stitching together complex international co-pro deals, hustling around the markets to plug funding gaps. And they worked – especially for Nat Geo."

Hamish Mykura, who is the Executive Vice President and Head of International Content for National Geographic, was quoted in National Geographic's media announcement for the new series that "We had several successful standalone "Drain The Oceans" specials that, one after the other, resonated with audiences all over the world, so we're very proud to be diving into a full series commitment. Spanning the globe, this ambitious new ten-part series offers novel story-telling as it explores the world's oceans with innovative technology to investigate astonishing mysteries."

Phil joined in 2017, and at the same time, MSP signed me (and SEARCH) on to officially be part of the series. I'm now the lead series consultant, and work at every stage of development, from initial concepts to fleshing out storylines, making connections and introductions, historical and archaeological research, on-camera interviews, leading field work, and reviewing scripts and computer graphics. While doing so, I'm having a tremendous time working with the team at MSP. That's not only been with Crispin and Phil, but also with head of production Adaire Osbaldston, Sarah Pitt, head of development and research, and after Sarah's retirement, with her successor, Sally Lisk-Lewis. Another partner brought in for the series was Australia's Electric Pictures, headed by Andrew Ogilvie and based in Perth, Australia.

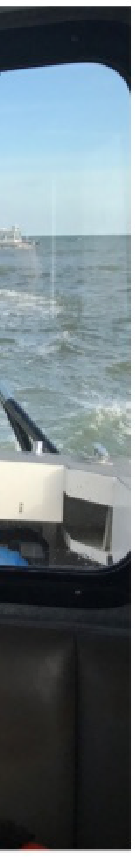
It takes a large team (over a hundred people) to produce the series, and so I have also worked closely with series, assistant and line producers, directors, camera and sound crews, and the hard-working, exceptional folks at Bristol-based 422 South. 422 South, headed by Dave Corfield, Liz Elkington, Craig Howarth and Ben Risk, started work-

NOAA deploys small survey boats around the country as NRT (Navigation Response Teams), and NOAA's Office of Coast Survey's NRT-5 was filmed surveying New York's Hell Gate for "Drain New York."

SEARCH, Inc. maritime archaeologists Deborah Marx and Joe Grinnan deploy survey gear on Mobile Bay at the site of the Civil War ironclad USS *Tecumseh*, sunk during the Battle of Mobile Bay. The survey took place and was part of filming for "Drain the Civil War."

Above: In 2019, *Drain the Oceans* won the prestigious Maritime Foundation's Maritime Media Award, which was presented by the First Sea Lord, Admiral Tony Radakin, at Draper's Hall, London. With the First Sea Lord are Jim Delgado and *Drain* producers Crispin Sadler and Simon Mallinson, who founded Mallinson Sadler Productions, which created and produces *Drain the Oceans.*

Below: Jim being interviewed by Crispin Sadler on board USS *Texas.*



ing with us in season two. They take the data and bring the wrecks to light using computer graphics. They also work closely with subject matter experts to make ships and places live again, including a fascinating technique in which the wire-frame "ghost" of the ship as it once was rises out of the wreck. It's breathtaking. It also comes and goes fast on your screen. I can assure you that despite the brevity of appearance in a fast-paced show, it takes a great deal of time and a tremendous amount of energy to create these scenes. During a series' production, I sometimes get several emails a day over a period of days or weeks that link me to an online edit suite, "Basecamp," where I review and comment on the work in progress.

The first season aired in 2018; the episodes, titled for marketing effect, included "Nazi Secrets," with a look at World War II German naval wrecks, the Gulf of Mexico, where we drained wrecks, the undersea network of America's deep sea energy frontier and the long-buried crater from a millions-years-old asteroid strike that wiped out the dinosaurs. Other episodes included "Lost Worlds of the Mediterranean," the volcanic ring of fire in the "Deadly Pacific," "Ultimate Battleships," "Mysteries of the China Seas," where we also drained the subsea network that connects Asia to the Internet, and a game-changer, "Egypt's Lost Wonders." When the question of what draining the Nile would reveal about the lost ships of the ancient Egyptians, the answer was not much. BUT if we "drained" the sand that surrounds the various pyramid complexes, huge stone-lined pits in which disassembled Egyptian boats were buried to ferry the dead Pharaoh to the afterworld, then we'd have something no one had ever seen. It worked.

Phil Craig hit in an essential truth; it's showing people the real thing that lies hidden out of view. "The key is the focus on finding these metal monsters at the bottom of the North Sea, more akin to a cool video game than a black-and-white archive history show." *Drain the Oceans* is constantly challenged, Phil notes, by Hamish Mykura, "alongside original commissioning editor Carolyn Payne and our Nat Geo boss in Hammersmith, Simon Raikes. They press "to make our storytelling different." That's also done by working with the actual people who found, dived on, excavated and studied the ships. Crispin, Simon, and Phil have been very clear since the beginning; "we never claim that the drain itself 'discovers' anything or that it's a magic archaeology machine. We always show or refer to the data we are using, and seeing it being gathered is an exciting part of the format." The show also does claim to find things that have not yet been found. When asked to do a show on Malaysian Airlines 370, as well as Flight 19 of Bermuda Triangle fame, the result has been a "best educated guess" approach that drains to show what one might expect to find.

The use of computer graphics "sits at the centre of our thinking and is our critical story-driving machine, celebrated in heightened language and emotional music every time we deploy it," as Phil Craig has said. What I like as an archaeologist who has worked on some of these sites is that the final results on screen are accurate, and in some cases, they've created detailed "site maps" that I could use in a technical report. They'd also work brilliantly as a diver's guide to wrecks. They give the non-diving world an accurate depiction of what we who go underwater encounter – but in a way that dramatically "turns on the lights in a dark room." The show reaches millions in 170 countries around the world. As we headed into Season Two, which just concluded airing in the United States, 422 South amped up the game. Phil Craig summed it up for the television media community:

> We no longer simply 'drain' the water away and fly over an undersea object; we now imagine what we'd do if we had a classy DoP [Director of Production] on the sea bed, picking shots, throwing focus and attaching GoPros to parts of the wreck so that water pours past the lens as it drains away.

I can't stress enough how exciting it is to work on the series. I believe in sharing and open access. What better way than television and on-line streaming?

I also know that even if we in the diving, historical, and archaeological communities know about a site or sites, not everyone does. Even if wrecks have been featured in other documentaries, the passage of even a few years means there is a new audience to reach. In the television world, a decade might as well be a century. Improved technology, better access, and new editorial approaches have breathed new life into stories we all think we've seen and know enough about. Not everyone does, and when I go out to give talks and meet people, I find many who watch the series, marvel at what they've seen, and are excited because they've learned something new. That is what counts. History belongs to everyone.

Season two began with a return to a wreck I'd dived with the Fletchers and French wreck divers for *The Sea Hunters*. HMS *Lawford* lies off Sword beach at Normandy. A German guided aerial missile sank it and took 37 of the crew down with *Lawford* during the D-Day landings. It was filmed and documented by the UK series *Wreck Detectives* a decade ago. A number of wrecks we dived and filmed for *Sea Hunters* were also dived and filmed by friends and colleagues Richie Kohler and John Chatterton for their series *Deep Sea Detectives*. Each show had its own approach and reached different audiences. With "Secrets of D-Day," working with veteran wreck diver and underwater cinematographer Dan Stevenson, we took the audience with us to those beaches, and down and into the wreck of HMS *Lawford*. It was a powerful and well received episode. We also drained the East River, downtown landfill at the site of the Twin Towers and a wreck well known to wreck divers, SS *Oregon*, off Fire Island, for "Drain New York," our highest-rated show of season two. We investigated Gold Rush wrecks in the Klondike and the Sacramento River, as well as the steamer *Winfield Scott* in Channel Islands National Marine Sanctuary, and also "drained" landfill to show the buried ship *Niantic* in the heart of San Francisco's Financial District. The Spanish Armada, "Killer U-boats," Nazi raiders like the South American wreck of *Graf Spee*, Civil War wrecks USS *Monitor*, USS *Cumberland*, USS *Tecumseh*, and *H.L. Hunley*, modern lost giant ships, including the 2013 loss of *El Faro*, the bottom of Loch Ness, "London's Secret History" beneath the Thames and its estuary, and the "Rise of the Roman Empire" were all episodes in season two.

I participated in on-the-water surveys and in the field for several episodes in season two, and as was done with season one, did a fair amount of "talking head" fill-in inter-

Top Left: Jim being interviewed above Omaha Beach for "Drain D-Day."

Top Right: Veteran British technical diver and cameraman Dan Stevenson and the film crew take a brief moment before Dan dives to the wreck of HMS *Lawford* off Juno Beach.

views. The behind-the-scenes reality of this type of work is that it takes an incredible amount of work to organize a shoot, get permissions as needed, coordinate and pull together a team to not only survey and dive, but also to film. You find and book local drone crews for the aerial shots. You find experts and organize their travel, and then convene the team on location. My frequent flyer miles for the past two years have been epic.

It's often fast-paced; I flew to Montevideo, Uruguay and in the space of three days had gone out to the wreck of *Graf Spee*, filmed, shot interviews and a pensive walk out a long pier to look out over the water, took a long car and ferry ride to Buenos Aires, spent hours filming in the German cemetery, and then flew home. For all that filming, hours of footage ends up being reviewed, re-reviewed, and edited down to become the 44 minutes that make up an hour-long television broadcast episode. Making films and watching the work being done is like watching paint dry. But in all that footage, through the work of exceptional producers, directors, and the creative team, amazing episodes come into focus.

I'm proud of the series and of my friends and colleagues at MSP and the larger Drain family. There are always special episodes, and in season two a few that jump out are the amazing departure from the usual format to tell the story of the Thai cave rescue. With interviews with the rescue divers, and doing a first-ever three-dimensional scan of the cave – a task MSP funded – so that the "drain" reveal is the cave network in the heart of those mountains – nonetheless is a powerful story of people. Another was working with the data provided by and in partnership with Paul Allen's Vulcan team to drain the recently discovered, deep sea wrecks of USS *Lexington*, USS *Indianapolis*, USS *Juneau*, and the Japanese battleship *Fuso*.

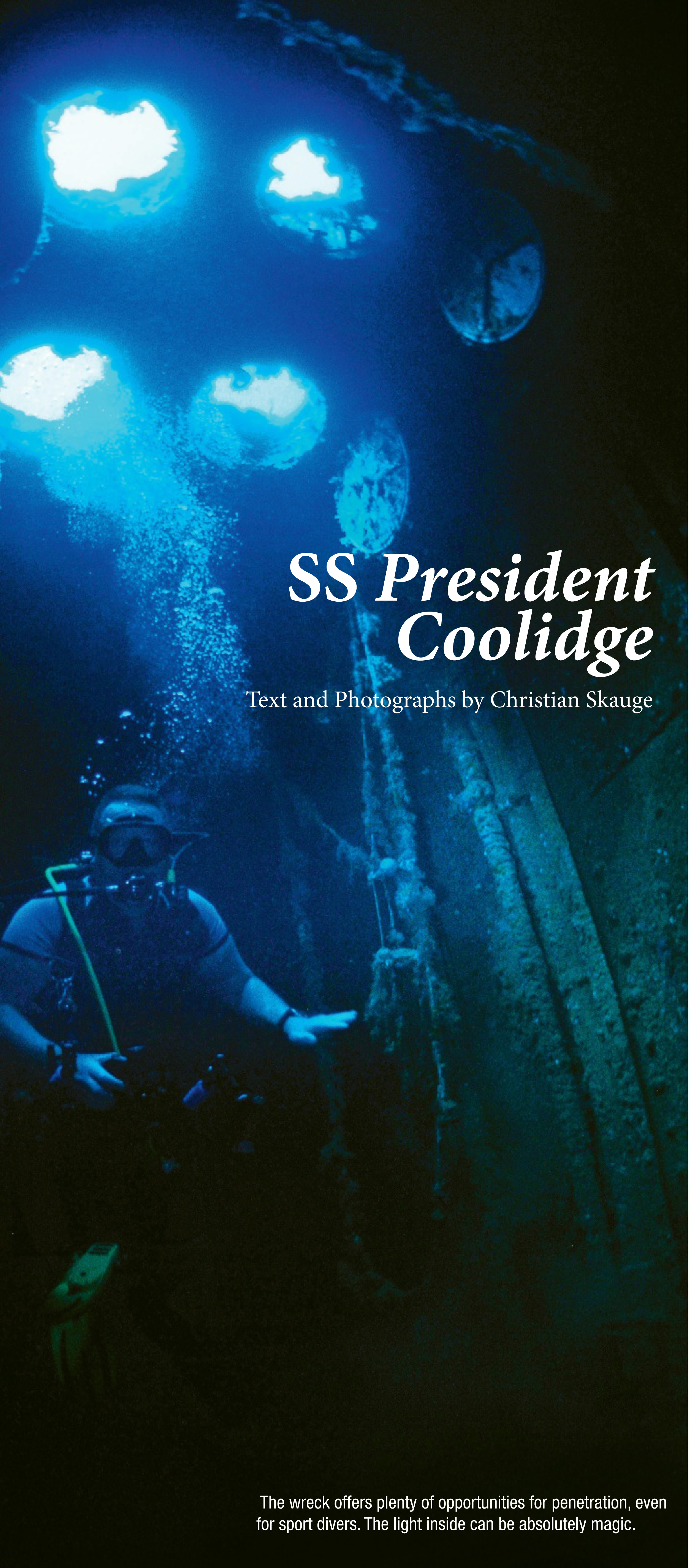
That show shared the work behind the scenes to survey and then work in the deepest parts of the oceans to find and document these wrecks. Yet another was "Drain lost Nukes," in which we drained the atomic-bombed carrier USS *Independence*, which was scuttled off San Francisco in 1951 after being used in atomic testing, as well as the site of the hydrogen bombs that fell into the sea off Palomares, Spain, and then the deep sea wrecks of the nuclear submarine USS *Thresher* and the Soviet sub *K-129*, site of an epic Cold War CIA-led salvage mission. These were shows that shared much new information, and helped open more than wrecks, but also the technology and analysis that goes into the art and science of shipwreck discovery. It also touched on how these wrecks speak to larger issues and amazing human stories that helped shape the world in which we now live.

We've just completed the episodes for season three. What we filmed, what the focus will be, and when they air is for now embargoed. But I expect that soon, perhaps as this issue is in print, you may have already seen at least one episode. I hope you join us in another season. Thank you for watching *Drain the Oceans* and for all of you who are out there, making discoveries and learning more about the incredible stories behind shipwrecks, I'm always open to learning of new finds, amazing stories, cutting-edge technology, new archaeological and historical insights, and to making a pitch to see what might get a greenlight from the network executives who make the final decisions.

About the Author: James Delgado first visited Bikini with the National Park Service in 1989-1990 for the first detailed dives on the wrecks in the lagoon as well as ***Prinz Eugen*** at Kwajalein. Jim returned to Bikini in 1999 and was one of the hosts for Al Giddings' Shark Week special, which Discovery broadcast live from Bikini. Jim was the primary author of the NPS report on the wrecks, as well as two other books, ***Ghost Fleet: The Sunken Ships of Bikini and Kwajalein Atolls*** (1996) and ***Nuclear Dawn*** (2009). Most recently, Jim was chief scientist for the E/V ***Nautilus*** deep sea dives to the wreck of USS *Independence* in 2016. In addition to his work on the atomic fleet, he has dived on and worked on more than a hundred wrecks around the world and is the author of more than 30 books.

SS *President* Coolidge

Text and Photographs by Christian Skauge



The wreck offers plenty of opportunities for penetration, even for sport divers. The light inside can be absolutely magic.

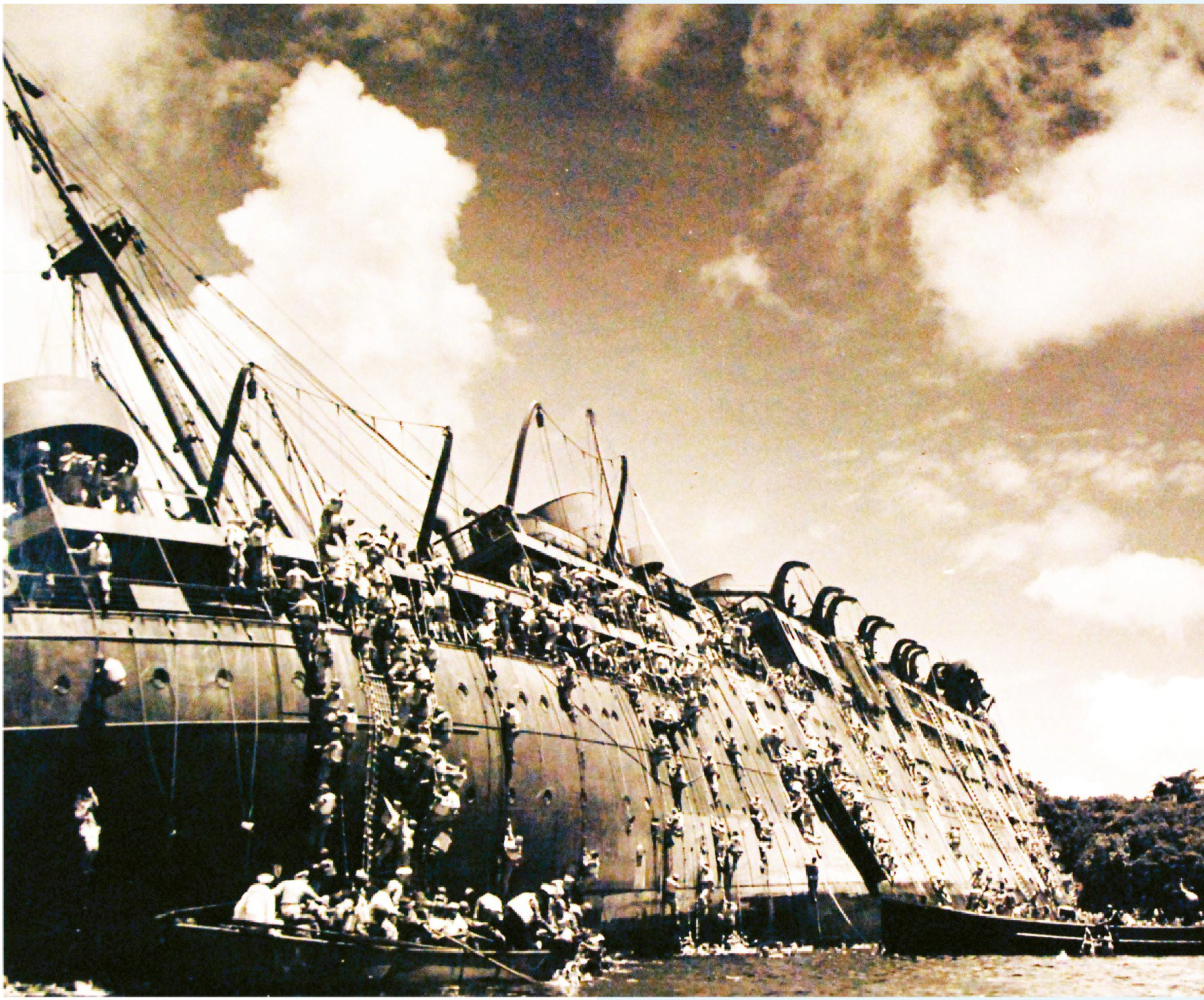
SS *President Coolidge*, the world's largest wreck you can dive from the shore, turned 75 years old in October 2017. The former luxury liner lies on a slope from 21 to 73 meters deep near Luganville at Espiritu Santo in Vanuatu, and, although far off the beaten track, she's definitely worth a visit.

In February 1931, a huge ship slid down the slipway at the Newport News Shipbuilding and Drydock Company in Virginia. The 653-foot-long hulk, which moments later splashed into the water, had a tonnage of 21,936 GRT (gross registered tons) and was to be outfitted as a luxury ocean liner for the Dollar Steamship Lines. She was christened SS *President Coolidge* after the 30th President of the US, Calvin Coolidge, and she was the largest merchant ship in the US at the time. Her sister ship, SS *President Hoover*, had been finished a year earlier.

After months of outfitting and preparations, SS *President Coolidge* was ready to sail later the same year on a route from her home port of San Francisco to Manila via Kobe and Shanghai. Among other amenities, the mostly wealthy passengers enjoyed spacious staterooms, private telephones, beauty salons, fine dining, a soda fountain, and two, tiled swimming pools on the top deck. In addition to the Pacific route, SS *President Coolidge* also embarked on a few journeys around the world, returning via the Panama Canal. She was a fast ship with a cruising speed of 20.5 knots, made possible by two, huge, steam turbo generators which powered electric motors on each of the massive propeller shafts.

Towards the end of the 1930s, her owners ran into financial problems, and SS *President Coolidge* was taken over by American President Lines. Finances were not the only problem at that time. Tensions were building in the western Pacific after Japan's invasion of Manchuria, and, by 1940, the luxury liner was used to evacuate US citizens from Hong Kong and other parts of Asia. In June 1941, SS *President Coolidge* became a troopship used to reinforce US garrisons in the Pacific, and after Japan's attack on Pearl Harbor in December that year, she evacuated critically injured naval personnel from Hawaii before she sailed in convoys to Australia with troops, ammunition, and supplies to Australia. In 1942, she was converted to accommodate over 5,000 troops and was fitted with several guns for protection. Most of the luxury of her glory days was stripped away, and, painted in a grey, haze color, she resumed her service for the US Navy in the southwest Pacific.

On 26 October 1942, SS *President Coolidge* was steaming towards the Pacific island of Espiritu Santo on Vanuatu. A large base had been established on the island for which she carried

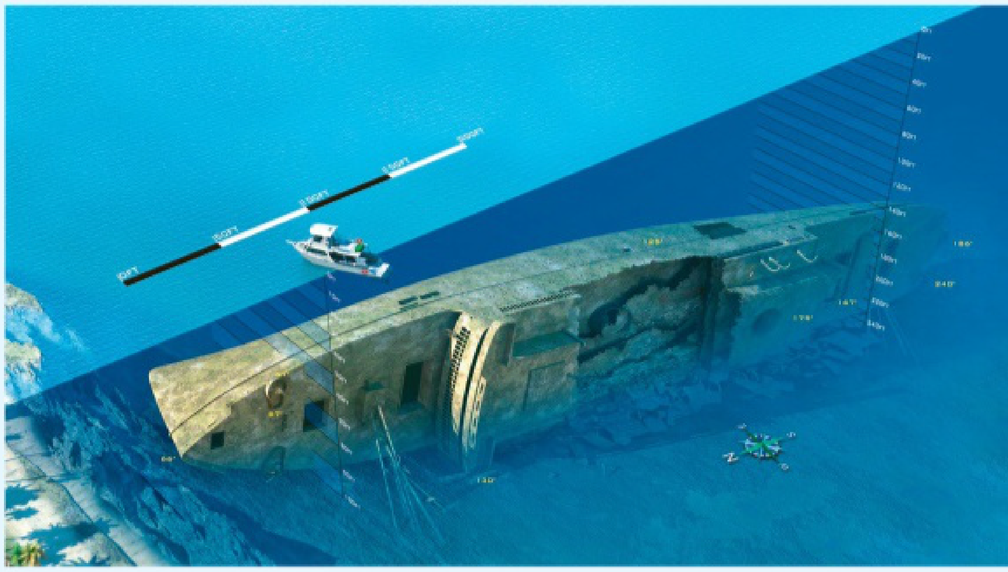


supplies and 5,340 men on board. Worried they might be attacked by Japanese submarines, Captain Henry Nelson chose to sail through the main channel as he approached Luganville, but he was unaware that it had been mined. A huge explosion in the engine room rocked the giant steamer as she hit a mine, and minutes later, another one below the stern. Knowing the ship was doomed, Captain Nelson had no choice but to run her aground to save the men on board, as well as the supplies.

Incredibly, all but two of the 5,340 men on board evacuated safely. Fireman Robert Reid, on duty in the engine room, was killed when they struck the first mine, and Captain Elwood Joseph Euart was unable to get off the ship after having gone back to help rescue men from the infirmary on board. Because of the coral reef, the ship was not beached properly, and after about an hour and a half – and strangely enough, exactly 13 years to the date after she was ordered - she slid off the reef, and listed heavily to port before she sank, sliding into the channel.

After the war, much was salvaged from the wreck,

SS *President Coolidge* ran into a mine field and was beached by the captain. The 5,340 men on board were able to get to safety, and only two lives were lost.



This illustration shows how the wreck lies today. The bow used to be at the water level, but earthquakes have made it slide into deeper water, and it now rests on a slope from 68 to 236 feet deep.

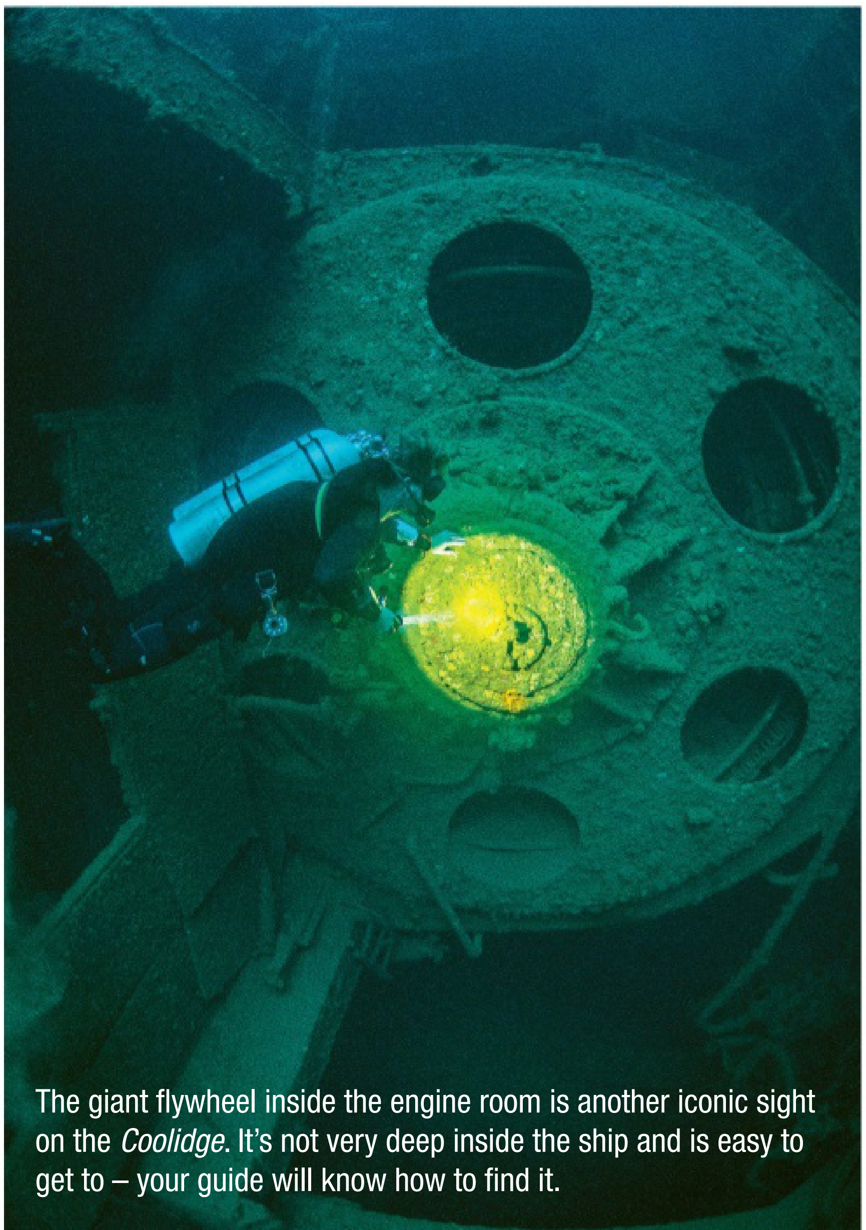
The bow of *President Coolidge* greets divers at a depth of 68 feet and marks the beginning and the end of the dive.

Inside the cargo holds, remains of several vehicles can be found.

including the propeller blades, bunker oil, ammunition, and copper tubing. Since 1983, the wreck has been protected, and all salvage, recovery, or souvenir-hunting is strictly forbidden. Captain Euart's remains were reportedly found, complete with dog tags and personal belongings, by a dive guide, recovered in 2014, and given a military funeral with full honors.

Today, 75 years and several earthquakes later, the *Coolidge* has slid a little deeper. The wreck lies on its port side from 69 to 240 feet deep and offers a truly magnificent dive – and an easy one, at that. SS *President Coolidge* is said to be the largest wreck in the world that you can dive from shore. After you swim a short distance, the huge bow of the ship looms below you, and from there on, it's a massive hull, almost like a skyscraper lying on its side at the bottom. Because of the orientation, the decks are now vertical and offer fantastic swim-throughs. Within her belly, the giant flywheel and other massive details of the engines can still be seen, and the famous Madonna statue is an iconic photo op for any diver visiting the wreck with camera in hand. On the port side, there are several cannons and many interesting details.

Deeper still, into the realm of technical diving, visiting one of the tiled swimming pools at 54 meters is another must-do. If you've got the gear and experience and are

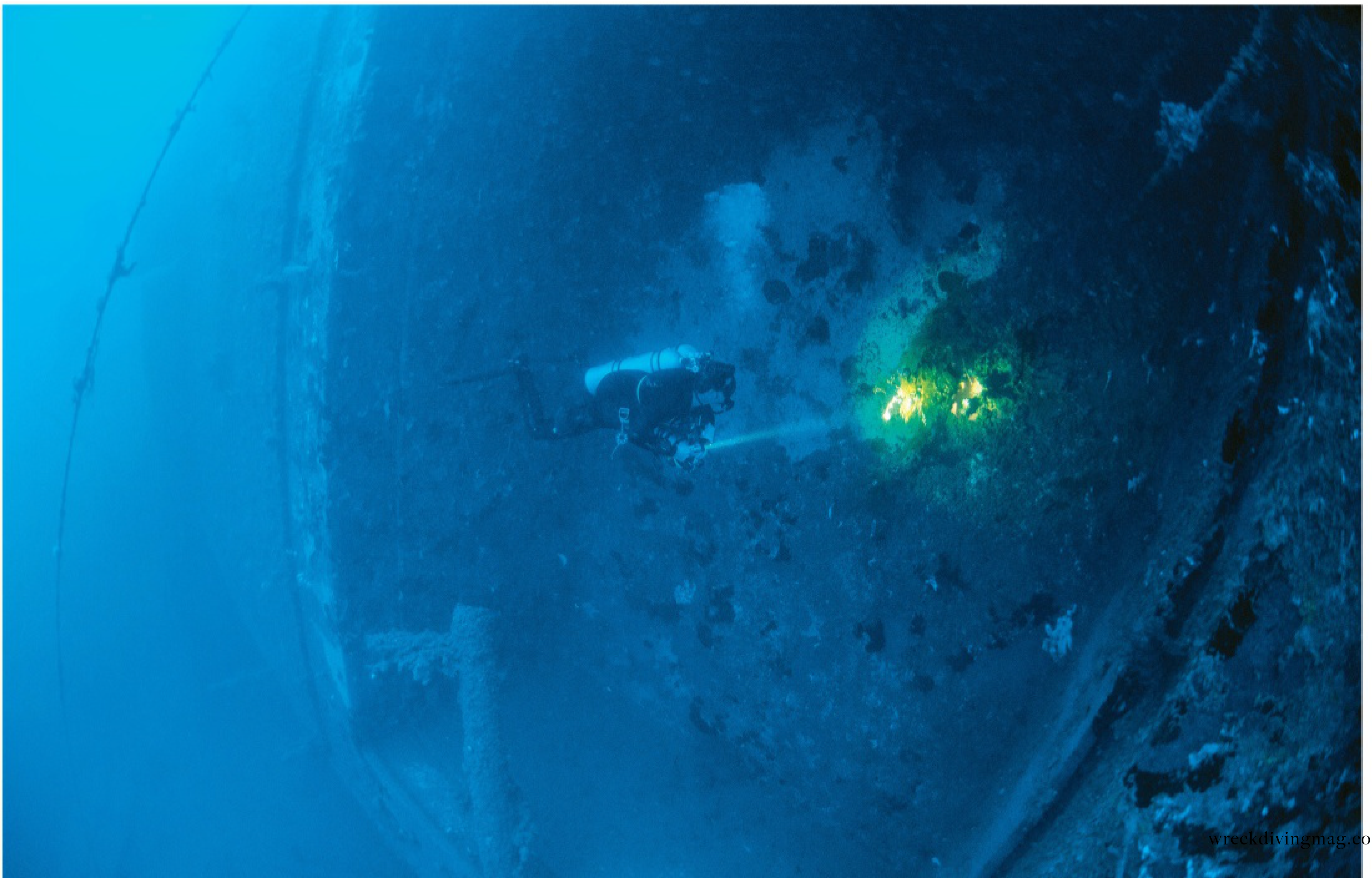


The giant flywheel inside the engine room is another iconic sight on the *Coolidge*. It's not very deep inside the ship and is easy to get to – your guide will know how to find it.

Left: The side of the hull is absolutely massive. The 615-foot-long behemoth lies on her port side, sloping from 68 to 236 feet deep.

Below: At a depth of 177 feet, the top deck swimming pool of the former cruise liner is another “must see.” The tiles on the sides and bottom are still largely intact.

> “Captain Euart’s remains were reportedly found, complete with dog tags and personal belongings, by a dive guide, recovered in 2014, and given a military funeral with full honors.



willing to take the decompression punishment, the stern of the ship is also a magnificent sight. The British newspaper, *The Times*, had SS *President Coolidge* on their "Top 10 Best Wrecks in the World" back in 2007, and even now, 10 years later, that's probably still true.

There are several dive shops in Luganville that offer diving on the wreck. If you're a tech diver, Coral Quays Fish & Dive Resort (www.coralquays.com) has tech gear for rent, experienced guides, and it even ships in oxygen and helium from Australia for your convenience.

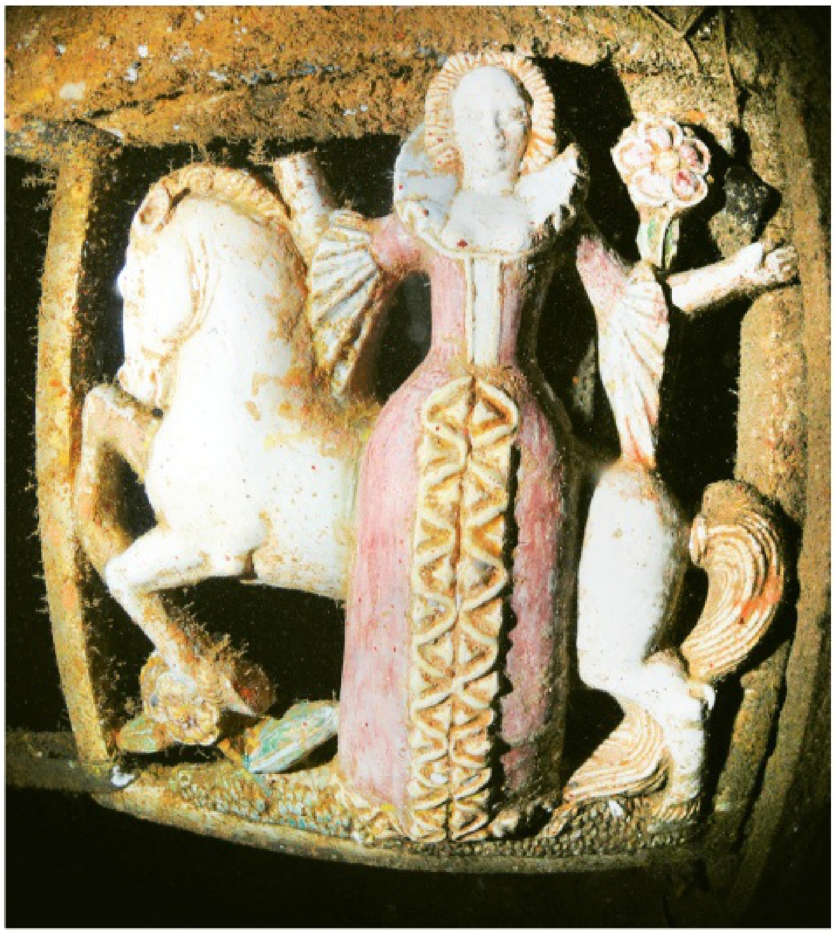
About the Author: Christian Skauge has been a diver since 1996, is certified in PADI RD, Nitrox, Tec40+45+50, and has logged approximately 1300 dives. He has been photographing underwater since 2003, and currently uses a Nikon D300s in a Nauticam housing, with 2x Inon Z-240 strobes. He is a winner of the Wetpixel & Divephotoguide Our World - Underwater Competition, earned GDP European Wildlife Photographer of the Year, honourable mentions in Nature's Best Windland Rice Awards, was twice the Norwegian and once the Nordic Underwater Photography Champion. Christian has had well over 100 articles published in magazines world-wide (including *DIVE Magazine, Tauchen, Wreck Diving Magazine, Wetnotes, Scuba Diver TTL* and several others). An overview (not complete) of published articles: www.scubapixel.com/published.

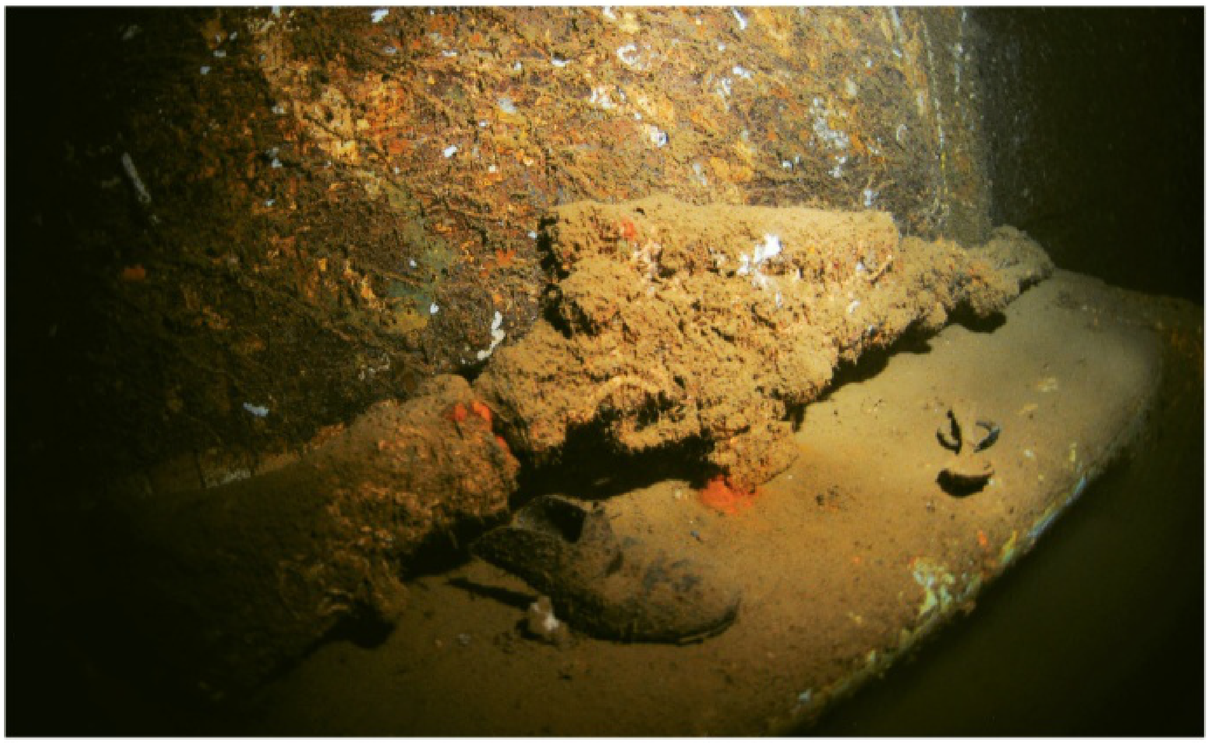
Christian is currently the editor of the Norwegian dive magazine *Dykking*, a position he held from 2006-10 and again from 2014 to the present. He has also served one year on the board of the Norwegian Diving Federation (2006).

He is also the owner and general manager of Aquaphoto, the Norwegian Nauticam, Aquatica and Inon dealer.

In addition, he runs his own company ScubaPixel, which produces underwater images, magazine articles, workshops and events. The Nudibranch Safari and Periphylla Safari held annually at Gulen Dive Resort in Norway have received international recognition.

You'll find more about him at:
www.scubapixel.com/about





Top to Bottom: It's a must to come home with an image of "the lady," the iconic porcelain relief of a lady riding a unicorn that used to adorn the ship's first-class smoking room.

A gun rests on a ledge inside the superstructure, probably placed there by a dive guide at some point. It looks to be a rifle with a telescopic sight, perhaps.

An anti-aircraft gun is still attached to its mount at 135 feet deep.

AQUATICA™
Digital

Deep down,
you want Aquatica

300 ft depth rating (upgradable to 450 ft).
Sturdy aluminum construction.
Modular port system.
Dual strobe connectors.
Cable release ready.

www.aquatica.ca

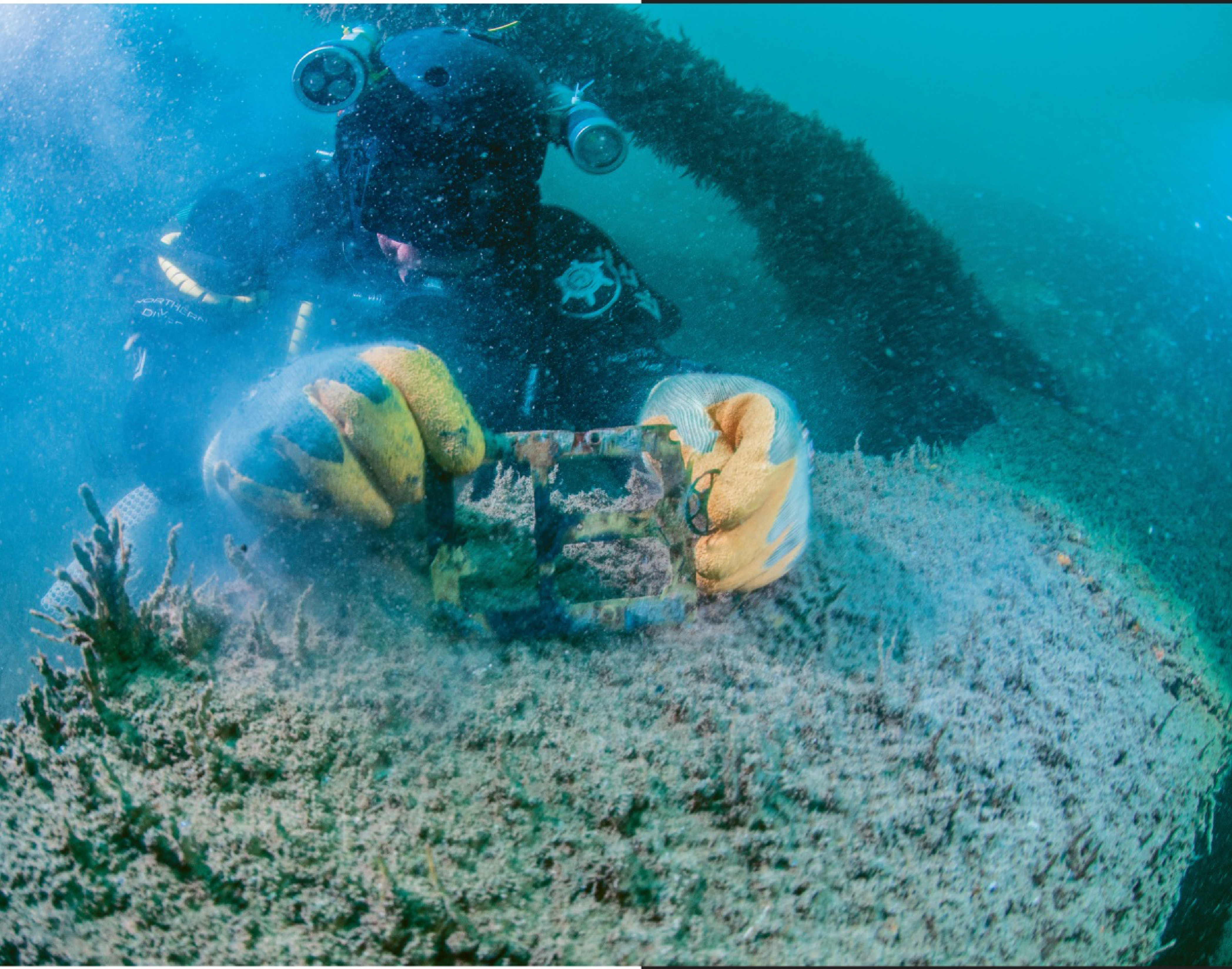
ScubaBoard
www.ScubaBoard.com
The World's
LARGEST
Internet
Dive Community

Get down with WRECK DIVING !
Join thousands of other divers !
Today at ScubaBoard.com

SUPPORT
OUR SERVICE
MEMBERS

SUDS

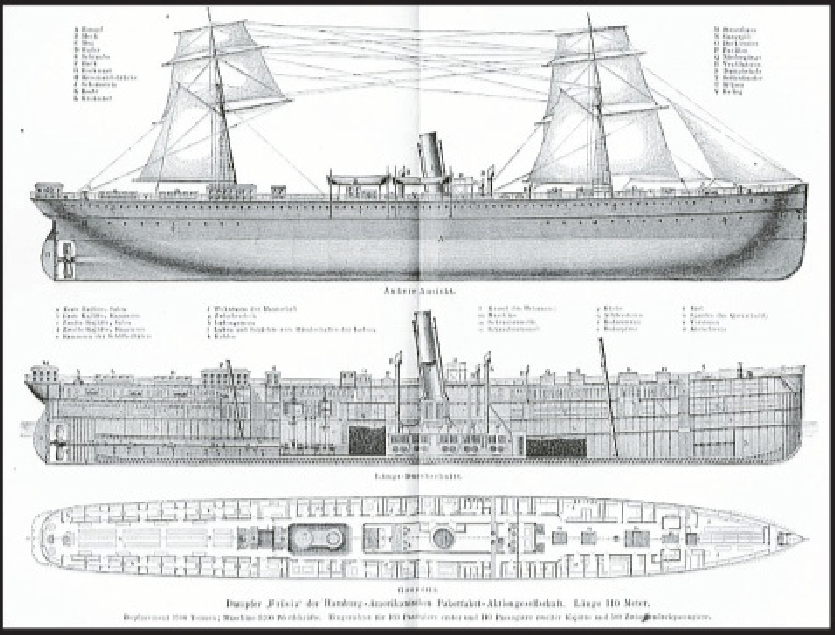
WWW.SUDSDIVING.ORG



Eddie shows clock mechanism parts (part of cargo).

SS *Pommerania*: The Pride of the HAPAG-Lloyd Line

By Stefan Panis


Äußere Ansicht
Längs-Durchschnitt
Dampfer 'Frisia' der Hamburg-Amerikanischen Paketfahrt-Aktiengesellschaft. Länge 110 Meter.

Plan of the sister ship of the *Pommerania.*

DOVER CLASSIC

During my first visit to Dover in 2011, we were diving on virgin shipwrecks, but Tony Goodfellow wanted me to dive a real classic too, so he took me to the Pommerania.

The Pommerania was an iron sail-steamship of the HAPAG line, which made the first crossings from Germany to the U.S.A.

The "Pom," as she is called locally, lies in an area which is often blessed with good visibility (by Dover standards).

FIRST DIVE

With the rigid inflatable, we headed out about eight miles to the site, and soon we were hooked into the wreck.

Eddie went in first to set the hook, and after he sent up the anchor, I went. It was a neap tide, so with my rebreather, I had plenty of time to explore the wreck.

When I came down on the wreck, I noticed the visibility was good, so I prepared the camera, and decided to follow Eddie's reel. We were hooked in just before the two-cylinder compound engine, since it was the highest point of the wreck. What an amazing sight that was - the engine still standing proud and surrounded by fish! The iron ship was still in quite good condition, considering that she sank in 1878!

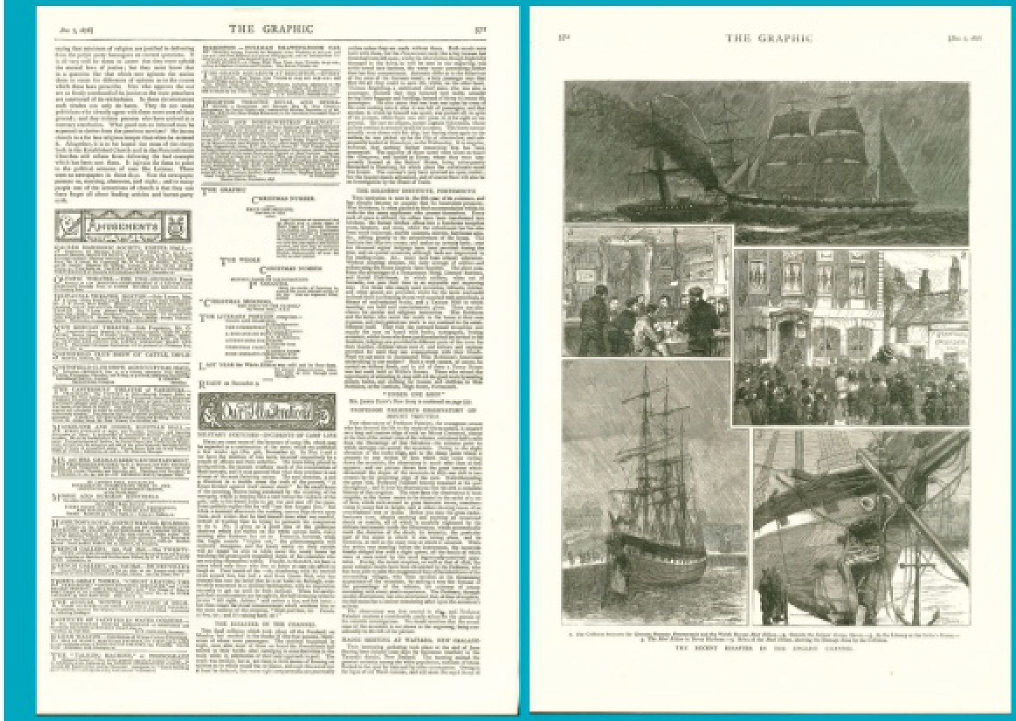
Although the wreck had already been dove frequently, there were still many artifacts littering the wreck site: portholes, plates, and cups, just to name a few items that caught my attention.

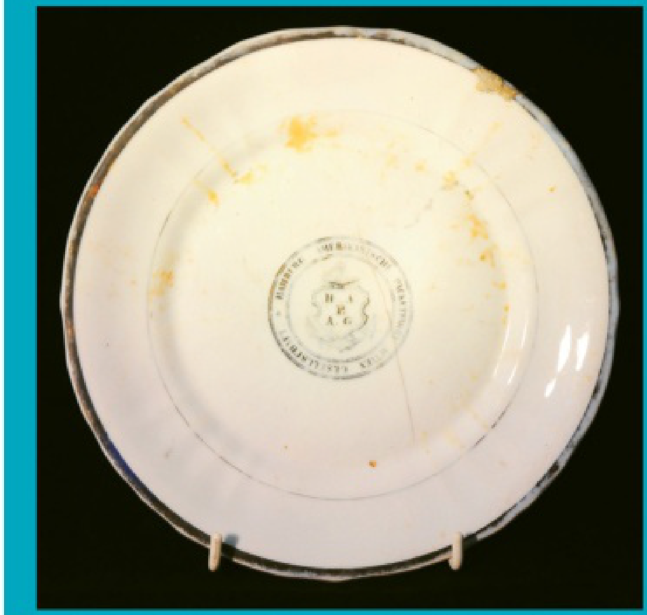
That moment I met up with Eddie, who had signaled me, he showed me some brass parts which I couldn't identify. (Later on the RIB, he explained to me that these were brass cog wheels of clock mechanisms, and there was a hold filled with boxes of them!)

Eddie guided me back towards the bow section, where he showed me a cannon, which was difficult to recognize in the tangled iron mass. This cannon still had the wooden tampion in the barrel to protect it! Unfortunately, the tide had turned and pushed dirty water over the site, which made it impossible to do any more photography, so I decided to go back up.

DISCOVERY

On another dive, the hook was not far from the bow, where huge deadeyes with the roping still attached, were hanging on the hull of the ship. I took some shots and proceeded towards the midships area. The two-cylinder compound engine again made an impressive sight, and I rummaged for a while in this area. The remains of the dining room and kitchen were also in this area. I noticed a brass rack, which had been used in the kitchen to stack the dinner plates. Next to it was a plate encrusted to a beam. When I took a closer look, it revealed a beautiful stamp with the HAPAG-Lloyd crest. Close to this was a crystal decanter, which was a nice, photogenic subject. Because the visibility was good, I decided to swim over the side, and I took a look outside the wreck. I swam across the debris field, when suddenly I spotted the ship's capstan standing on the sandy bottom a few meters off the wreck, and in perfect condition, the brass cover still on top of it!





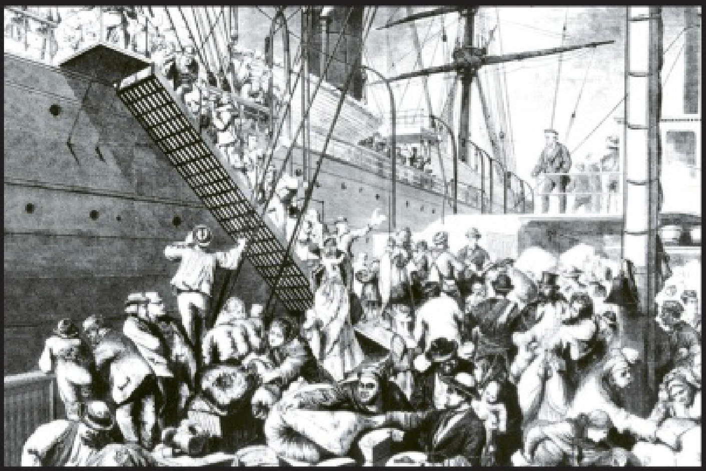
UNITED STATES OF AMERICA
IN GOD WE TRUST
TWENTY DOLLARS

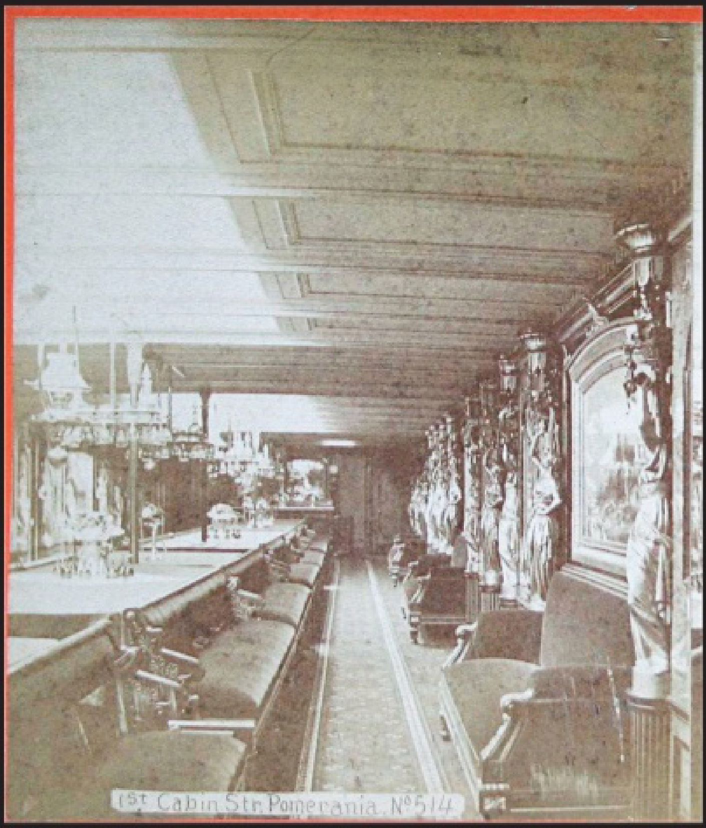
LIBERTY
1847

Top to Bottom: Old articles on the disaster.

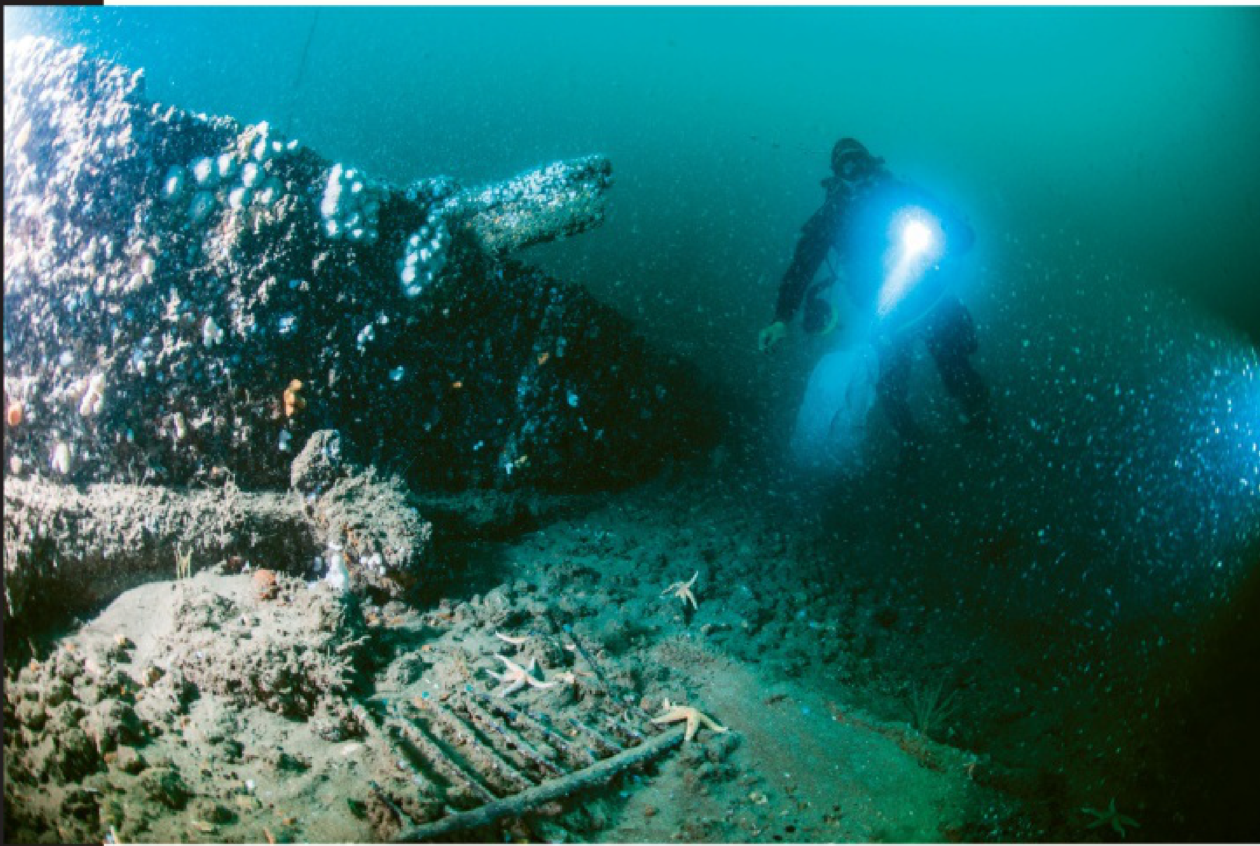
A plate from deep inside the SS *Pommerania.*

Bottom Two: Golden $20 coin found on the wreck.




1st Cabin Str Pomerania. No 514

POMMERANIA.
HAMBURG und UMGEBUNG.
89. Auf Deck der Pommerania.



Top to Bottom: Diver in one of the holds.

A cup amongst the wreckage.

Dover Harbor.

◀ **Opposite Page Left Top to Bottom:** Drawing of the boarding for a transatlantic voyage.
Crew on deck of the *Pommerania*.
Rare picture of the first class cabin.

Rare picture on deck, clearly showing the bell.

◀ **Opposite Page Right Top to Bottom:** Eddie Huzzey finds the golden end of the connecting chain of a pocket watch.

In the middle of the picture, a deadeye (part of the rigging of the sails) can be seen.

A plate encrusted in the wreck.

History

The SS *Pommerania*, built in 1873 by J. Caird & Co (Yard N°175), was the pride of the Hamburg Amerikanische Packetfart A.G. or HAPAG-Lloyd. To make the crossing for the (usually) wealthy passengers, she was built with the highest quality fittings.

For that time, she was quite a big ship, 109 meters long, and 3400 Grt.

On the 26th of November, 1878, the SS *Pommerania* was on her way home after a stop-over in Plymouth, under the command of Captain Schwensen, with 220 souls, of which 111 were passengers.

That evening, there had been some festivities in the main cabin in celebration of the impending approach to port. When most of the passengers had retired to their berths, there was a terrible crash. She had been rammed by the Moel Eilian. The *Pommerania* sank like a rock because the watertight doors were left open. The *Eilian*, whose doors were closed, had taken on water only in the forward hold, and made it safely into Dover Harbor. Thomas Brightling, a chief mate, declared after the disaster that the crew had behaved very badly, actually saving their own baggage, instead of trying to rescue the passengers. He had seen no officers helping, only Captain Schwensen, whose gallant conduct was attested to by all accounts. This brave seaman actually went down with his ship, along with 47 more souls.

The majority of those saved were taken on board the *Glengarry*, and landed in Dover, where they were temporarily housed at the sailors' home, and subsequently transported to Hamburg.

Golden dive!

In June 2018, I had organized a "wrexpedition" week to dive the wrecks in the Dover Straits with divers from Belgium, Italy, the USA, and the UK.

On the first dive, the weather and tides forced us to dive the *Pommerania*.

I went down with Eddie Huzzey to secure the hook. Visibility was not good, because of the residue of the algae bloom, but that didn't spoil the fun!

We rummaged around in the stern section, an interesting area, when suddenly Eddie started frantically signalling me. He pointed to something in the sand, but I couldn't see anything. Then he took a golden coin out of the sand, and next to it, the golden buckle of a pocket watch! This was amazing!

The coin turned out to be a $10 "American Eagle," which was cool since we had American divers with us, who were immediately infected with gold fever, and wanted to dive the wreck again that day!

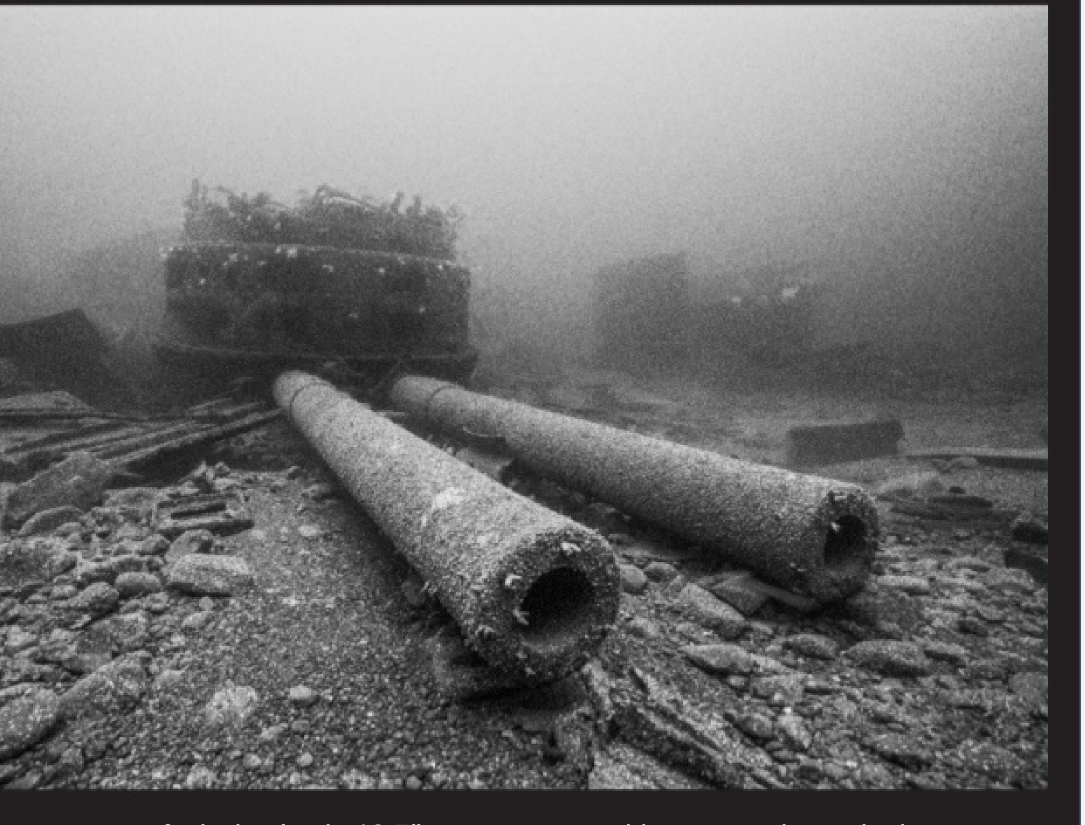
The coin and the other items recovered were delivered to the Receiver of Wrecks.

About the Author: Stefan Panis started diving in 1992, and since then, he has moved on to nitrox and trimix. He started diving with a rebreather in 2009, and began doing underwater photography in 2013. Meanwhile, he developed a great interest in wrecks and researching their history in the archives. He spent many dives on wrecks in the North Sea, the English Channel, and abroad in Sardinia, France, Portugal, and Cuba, to name a few places. He has been involved in several successful expeditions searching for new wrecks. In 2014, he also obtained his full cave CCR certificate, and he also loves to dive and document the many old mine sites in Belgium!

In the Wake of Dreadnoughts . . .

Text and Photography by Bradley Sheard

The British King George V-class dreadnought HMS *Audacious*.



Audacious' twin 13.5" gun turret stretching across the seabed. (August 2004)

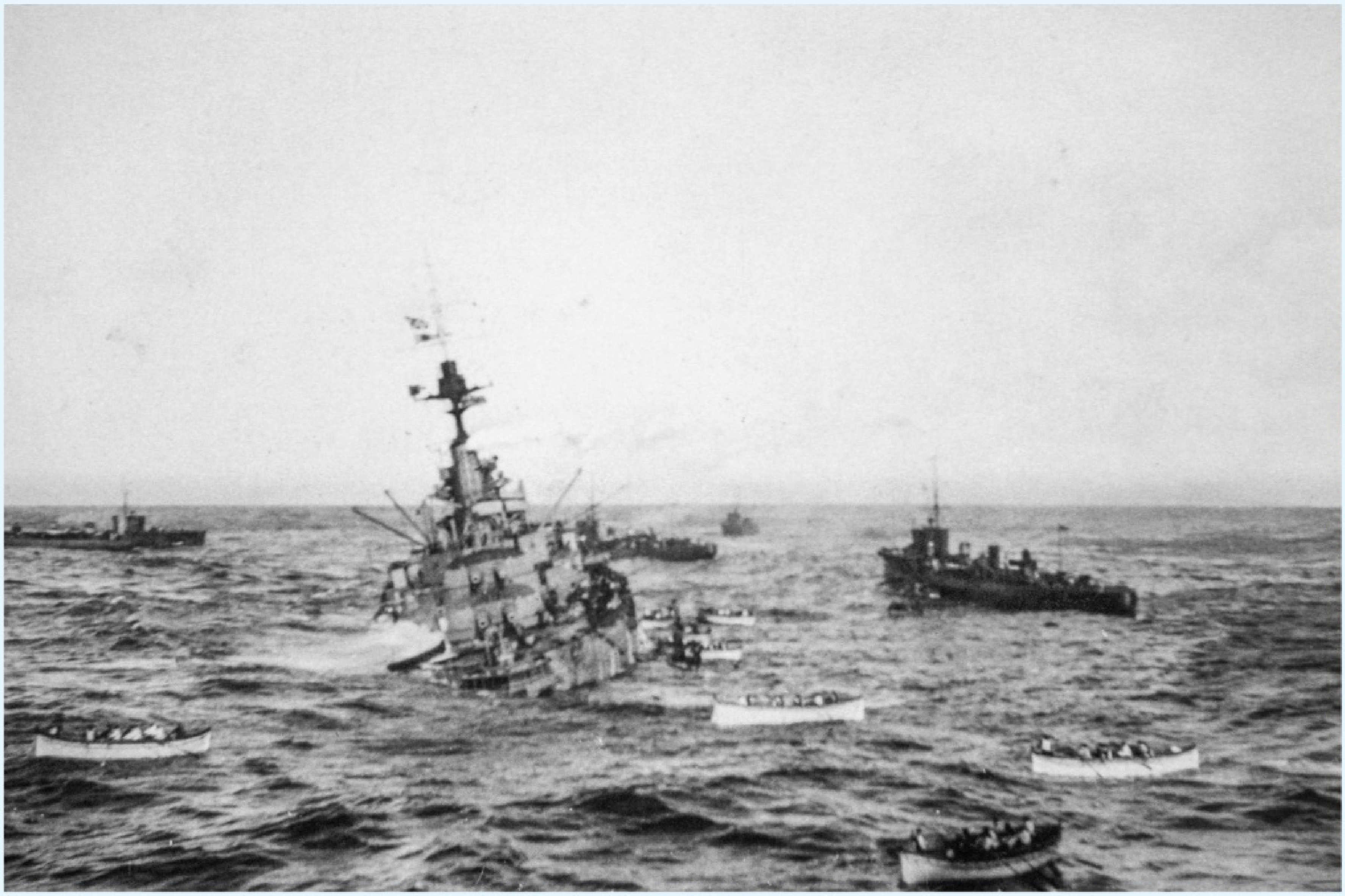
In the year 1906 a dramatic revolution befell the world's navies. Great Britain, the world's preeminent sea power, made her own fleet, and those of her rivals, instantly obsolete by launching HMS *Dreadnought*. All existing battleships quickly became known as "pre-dreadnoughts," rendered inferior by an entirely new class of warship ushered in by the British namesake—"dreadnoughts."

Dreadnought's instant superiority to all existing ships was accomplished by removing nearly all small-caliber weapons and replacing them with as many 12-inch guns as the ship would hold. This revolutionary armament concept made the ship capable of lofting a larger broadside at distance than any other ship afloat, making her the equivalent of two, or even three, of her rivals. This massive firepower was combined with thicker armor plating to resist enemy shells, and steam turbine engines that gave her an unmatched speed advantage in combat, allowing her to dictate the terms of an engagement with the enemy.

Every seafaring nation now needed dreadnoughts, and they needed them fast. The ensuing arms race was both a blessing and a curse. New ships were laid down at an ever-increasing rate, stretching each nation's treasury to the breaking point. For traditionally smaller naval powers like Germany, however, the balance of power was temporarily leveled as each nation's fleet had to be rebuilt from scratch—a restart from the ground up. This revolution in naval design swept up the supporting ships in the fleet as well. Armored cruisers gave way to battlecruisers—fast and nimble ships with lighter armor than battleships, but packing the same large-caliber guns—fleet-footed warriors that could destroy anything other than a full-up dreadnought. Torpedo boats gave way to more powerful destroyers, and new "light cruisers" filled the gaps and protected the monster dreadnoughts from torpedo boat attack. Newly built fleets of these powerhouse ships enabled nations to project power far beyond their borders, threatening each others' security and leading to a rapidly escalating arms race that helped cause what is arguably the most violent armed conflict humans had ever unleashed upon themselves. These massive fleets, bristling with raw power and speed, left a trail of destruction in their wake—broken ships, wreckage and human lives—strewn across the sea floor around the European continent and beyond—a sprinkling of historical breadcrumbs begging to be explored.

War Comes to Europe

When the sparks arrived that ignited the European tinderbox, the world waited breathlessly for the expected clash of the great dreadnoughts. Such conflict was not to be taken lightly, however. Winston Churchill, writing after the war, referred to Admiral John Jellicoe, commander of the British fleet at Jutland, as "the only man on either side who could lose the war in an afternoon." Such was the importance of the great fleets these warring nations had built. Both Britain's Grand Fleet and Germany's High Seas Fleet entered the game cautiously. The first significant naval encounters took place at Heligoland Bight (1914) and Dogger Bank (1915)—but these were mere brushing engagements compared to what would follow at Jutland (1916).



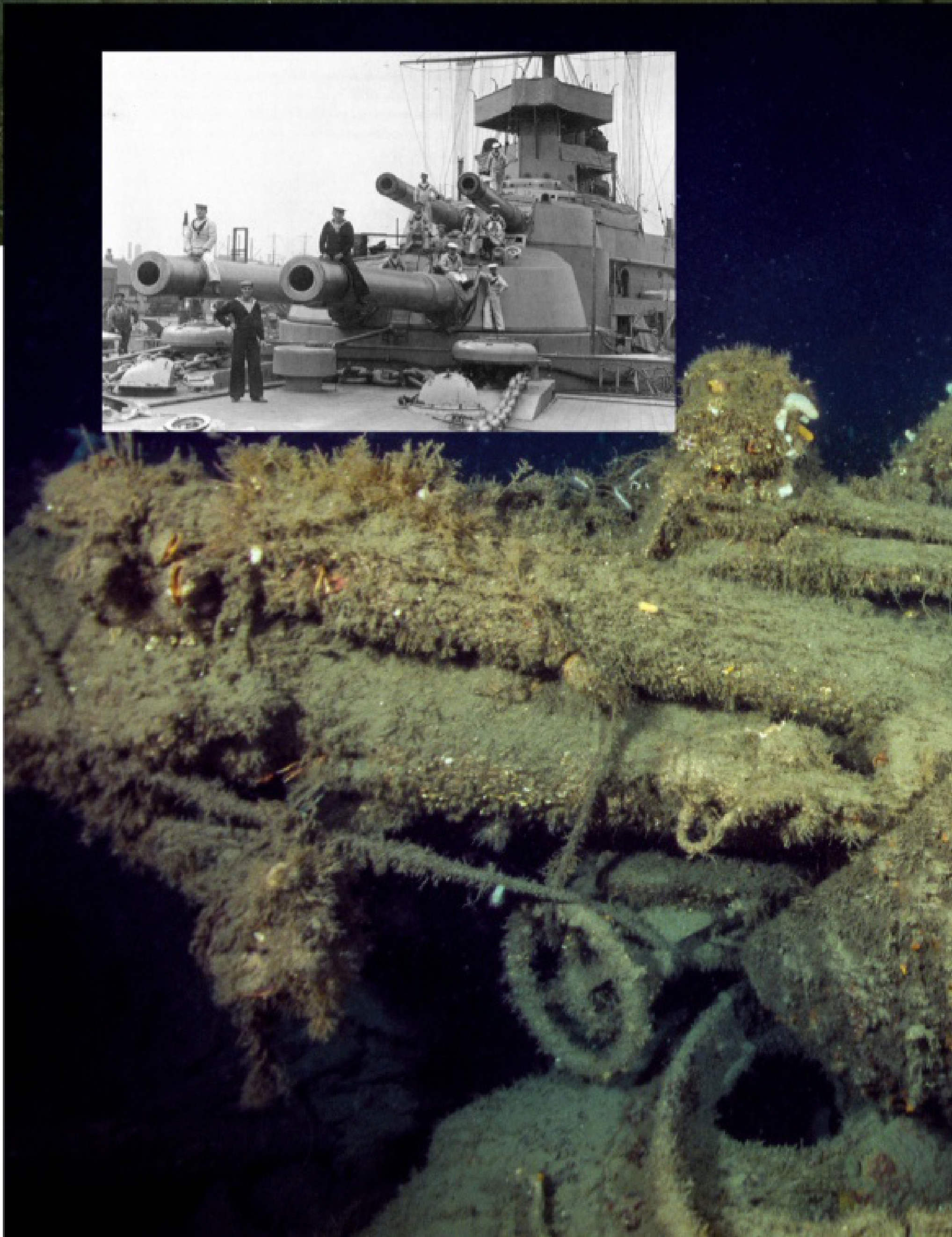
HMS *Audacious* sinking off Malin Head after striking a German-laid mine, highlighting the lack of underwater protection built into these behemoths.

The great dreadnoughts, designed to unleash violence upon their enemies, would themselves succumb to the very violence their inventors had imagined. Armed with the most massive naval guns yet created, and armored with steel plate thick enough to resist plunging, high explosive shells fired by the enemy, the warships had a peculiar but unavoidable vulnerability. Such massive ships could only carry so much weight—the heavy armor and guns challenged their ability to remain afloat, and weight had to be trimmed somewhere. Below the waterline their unarmored hulls were like thin-skinned balloons awaiting the slightest pinprick to let the sea rush in. The German Navy had invested heavily in submarines before the war in an attempt to compete with Britain's superior naval fleet and geographic advantages. When war came, mines lain by both submarines and surface ships were an enormous menace to merchant shipping—and to the thin-skinned underside of naval warships. In October 1914 the British dreadnought HMS *Audacious* struck a single German mine north of Ireland, puncturing her soft belly. Compartments near the explosion flooded immediately, and the ship quickly took on a list, but the remainder of the hull flooded slowly, but unremittingly. A variety of ships took turns trying to tow her toward Lough Swilly in Ireland after her engines gave out, but that single mine had doomed the giant dreadnought; fortunately, her entire crew were safely evacuated before she finally rolled over and sank off Malin Head, Ireland.

August 2004: Ninety years later, Mike Boring and I joined a group of British divers aboard the *Loyal Mediator* out of Oban, Scotland. Our departure for Malin Head was delayed by a gale, however—the remains of hurricane Alex that I thought I'd left behind, had followed me across the Atlantic! Fortune was with us, however, and after two days the wind dropped out and we found ourselves in the open Atlantic headed for Ireland on a calm sea with a touch of ground swell. A pretty sunset and a passing minke whale set the stage for a peaceful crossing and a spectacular dive the following day.

HMS *Audacious* lies upside down, as most capital ships do, in 207 feet (63 meters) of marvelously clear water—the remnant of the Gulfstream crossing the Atlantic. Dropping down the shot, we were greeted by her inverted, riveted hull, looking like a slaughtered steel whale lying prone on the ocean floor. Swimming toward the bow over her curved bilges, we saw the hull begin to break down into a rubble field. In the distance, a circular tower-like form materialized in the depths—one of the forward barbettes, the armored foundation for the main gun turrets. As the rubble gave way to a gravelly, hard bottom, directly ahead sat an inverted turret, while off to the left stood another towering barbette. Approaching the gun turret is like stepping back in time; twin, side-by-side, 13.5-inch guns protrude from the massive circular structure, pointing nearly straight ahead as they stretch across the bottom. Open muzzles gape at the surrounding seascape, speaking of the great power of these behemoths. It is difficult to

About the Author: An aerospace engineer by trade, Brad Sheard's real passion is diving, shipwrecks and photography. Certified in 1977, he quickly took to wreck diving in the waters surrounding Long Island, NY, where he grew up. A year later he borrowed a Nikonos from work, took a few horrible photos, but was hooked. Soon he was diving and photographing wrecks all along the US East Coast, including visits to the luxury liner *Andrea Doria*, ironclad USS *Monitor* and the now-famous *U-869*. His interest in historic shipwrecks and photography has led him around the globe in pursuit of new subjects, from the icy waters of the Baltic Sea and the *Wilhelm Gustloff*, to the tropics and the remains of the HMS *Repulse* and *Prince of Wales*. He was also part of the team that found the *U-550* in 2012. Brad has authored two books on shipwrecks: Beyond Sportdiving: *Exploring the Deepwater Shipwrecks of the Atlantic*, and the extensively illustrated *Lost Voyages: Two Centuries of Shipwrecks in the Approaches to New York*. More of his images and writing can be found at www.bradsheard.com.



Above: Ken Clayton with the *Ostfriesland's* anchor chain on the bottom 380 feet down; at one end of the chain must lie the great dreadnought, but which way? (September 1996)

imagine the destructive power of the shells that these guns threw—1400-pound, high-explosive projectiles, traveling faster than the speed of sound with a range of more than ten miles. At the end of their high-speed flight, the shells came crashing down on another deadly dreadnought—inhabited by men. The thought is frightening. The remainder of the dive was almost a letdown—nothing can compare to the sight of that forward turret and its deadly guns. There was a certain sadness to the dive as well, for the once-great ship is now dead, merely a museum display of the great power of the once-mighty dreadnought.

The Battle of Jutland

The great dreadnought contest the world was awaiting finally occurred at Jutland, off the coast of Denmark in the North Sea—a twelve-hour contest that erupted on May 31-June 1, 1916. A titanic confrontation between the world's two greatest fleets, involving some 250 ships and 100,000 men, with each side desperately trying to destroy the other. In the end, 14 British and 11 German ships were sunk, while more than 8600 lives were snuffed out in a violent and confused action with twists and turns that are still being analyzed and debated. Ironically, not a single dreadnought was sunk during the battle.

In one of the most dramatic encounters during a day and night of horrific confrontations, the British battlecruiser HMS *Queen Mary* was struck by a salvo of shells from the German ships SMS *Derfflinger* and *Seydlitz*, then quickly hit by two more shells. A small puff of smoke was seen by witnesses, followed by a deep red incandescence, and then an explosion so violent that the entire ship was torn in half and the roofs of her massive turrets blown more than 100 feet into the air. When the smoke cleared, all that remained was the *Queen Mary*'s stern; another explosion and that too disappeared, along with 1266 men. Like the *Indefatigable* before her, and the *Invincible* to follow, *Queen Mary* had fallen victim to a defect in the design and use of her ammunition feed system, which allowed incoming shells to set off a chain reaction from the turret down into her main magazine. High-explosive shells and powder, stored deep in the battlecruiser's belly, ignited in a fireball of an intensity hard to imagine—an explosion that no living or inanimate creation of man could possibly survive. Watching from the bridge of his flagship *Lion*, Admiral Beatty uttered one of the most famous lines from the battle, if not the entire war at sea: "There seems to be something wrong with our bloody ships today."

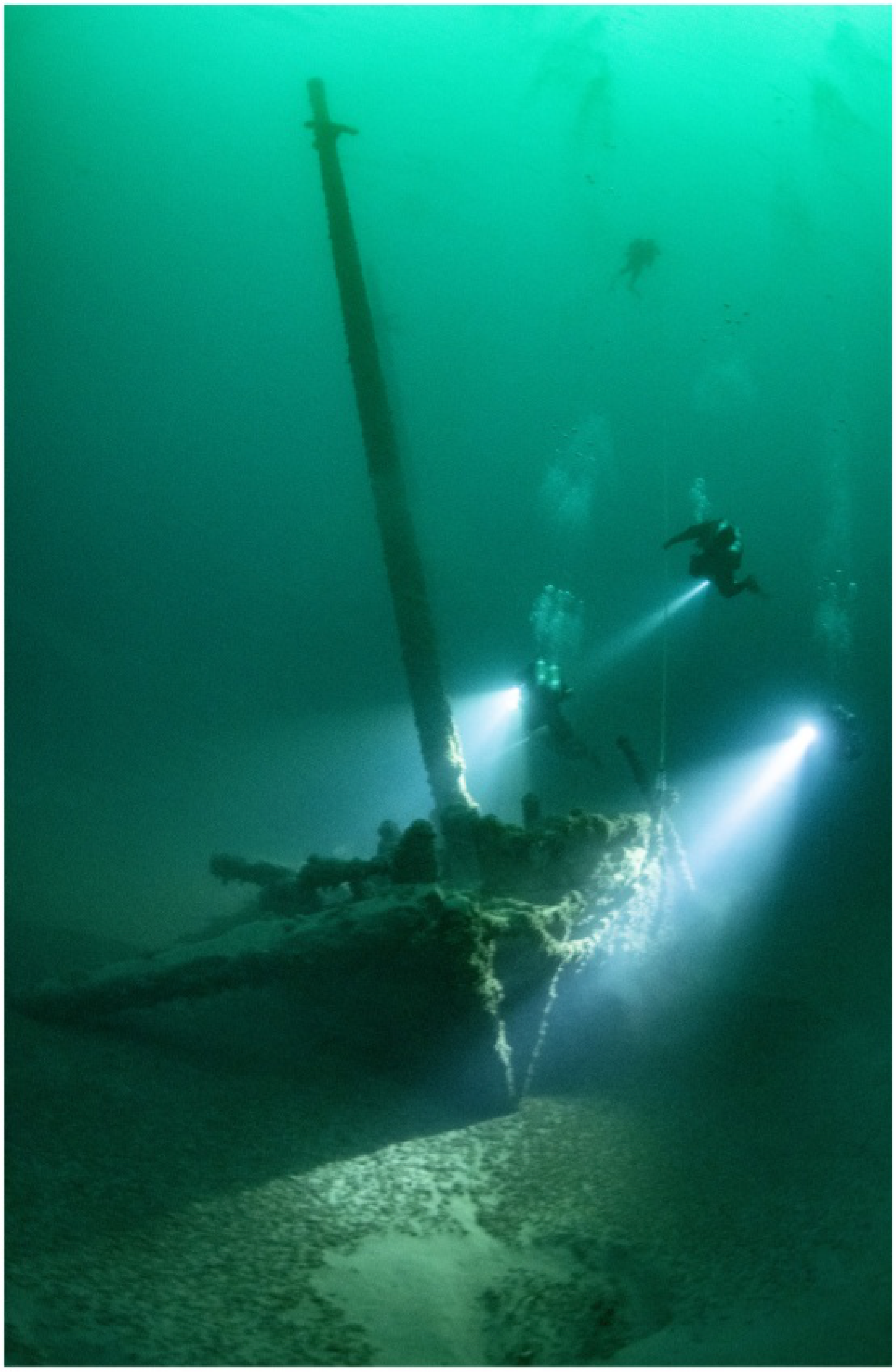
Opposite Page Above: Like a gigantic camera lens, a searchlight iris lies on the bottom alongside the cruiser *Brummer*'s deck. (September 2019).

Left: Mike Boring examines a casemate gun on the stern section of the wreck of the British battlecruiser HMS *Queen Mary*, sunk dramatically during the height of the Battle of Jutland. (May 2002)

Inset: The two massive forward gun turrets of the British battlecruiser HMS *Queen Mary*.

The Mystery of the "Dunkirk Schooner"

By Erik Petkovic



A group of technical divers light the foremast of the "Dunkirk Schooner." Courtesy Jeremy Bannister.

In the early fall of 2004, I was visiting my dear friend, admiralty attorney Peter Hess, in Wilmington, Delaware, for a couple of days. After a late night meeting and a driving tour of Wilmington, we stopped at his office as he wanted to show me his brass Mark V diving helmet and some dishes he recovered from the Italian luxury liner, *Andrea Doria*. He then played some underwater footage of one of the most spectacular shipwrecks I had ever seen.

Even though the water was dark, visibility was phenomenal. I was astonished to see a fully intact, two-masted schooner resting upright in the lake I dived every weekend. As the video cruised over the very low railing, I paused the footage when an anchor resting on the port side deck appeared. I could not believe what my eyes were seeing. I told him I had never seen that wreck before. He said no one had. I stared at Peter in disbelief and said, "What wreck is that?" He just smiled and said, "An old one."

The previous year, one of Hess' clients, Richard Kullberg, purchased five sets of "numbers" from the world's preeminent side-scan sonar specialist, Garry Kozak, and one set of numbers was for this intact schooner. The wreck would become known as the "Dunkirk Schooner" due to its proximity to Dunkirk, New York. She was also known as "Schooner G" and would quickly become the most controversial shipwreck in Lake Erie. This unknown schooner has garnered more headlines, hate, and animosity than any other wreck in recent memory.

La Salle's *Griffon*?

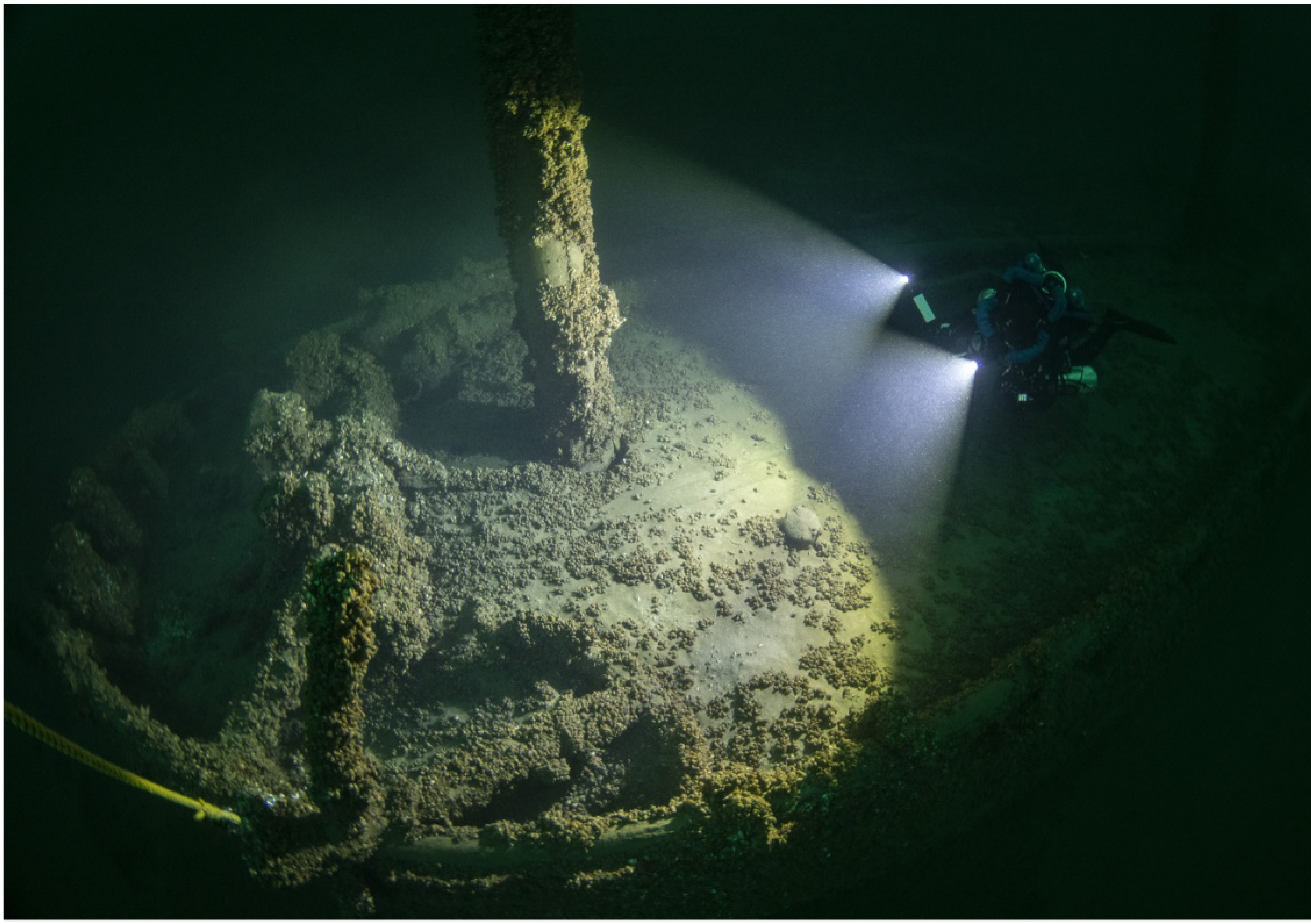
Due to her early construction and some features found on fewer than a handful of wrecks in the Great Lakes, it was initially speculated this wreck may have been the elusive *Griffon* - the long-lost and long-sought ship built in 1679 by French explorer Robert de La Salle. The *Griffon* is the most hunted shipwreck in the Great Lakes. New claims of her discovery have been made repeatedly over the 340 years she has been missing. However, almost all claims have been proven false. This wreck would be no different.

Although she proved not to be the most famous shipwreck in Great Lakes history, the "Dunkirk Schooner" was of very early construction. She had low railings, a bowsprit, and a scrolled figurehead. One of the most unusual features on the wreck was the presence of stern gallery windows. Windows like these were only previously seen on the wrecks of the *Hamilton* and the *Scourge* - both War of 1812 ships and both constructed prior to 1808.

An Ambitious Project

Kullberg later formed a company named Northeast Research LLC (NER) to spearhead an ambitious project. NER's ultimate goal was to raise the wreck in its entirety and place it on display as the main attraction of a proposed maritime museum.

The plan was for the wreck to be fully submerged in cold water inside an acrylic tank. How would this be possible? The wreck is less than 80 feet long and there are tanks at



A close-up of the bow showing the foremast and anchor.
Courtesy Jeremy Bannister.

aquariums that are larger. The wreck would be preserved and conserved for future generations. Some have criticized the move as careless, irresponsible, and monetarily driven. Imagine coming face to face with an intact shipwreck built in the 1790s, without getting wet. That would be a worldwide attraction and would no doubt leave an indelible mark on those who came to see her.

Into the Courtroom - Admiralty Law and the Abandoned Shipwreck Act

In order to positively identify the wreck, NER first needed to obtain a permit to do the necessary excavation. On 6 August 2004, NER filed in Federal Court seeking either title to the "Dunkirk Schooner" under the maritime law of finds, or at a minimum, a salvage award. NER also sought an injunction against any rivals diving the wreck or conducting salvage operations. Additionally, NER asked for arrest papers. The Court granted the arrest and also asked for any parties with an interest in the "Dunkirk Schooner" to come forward.

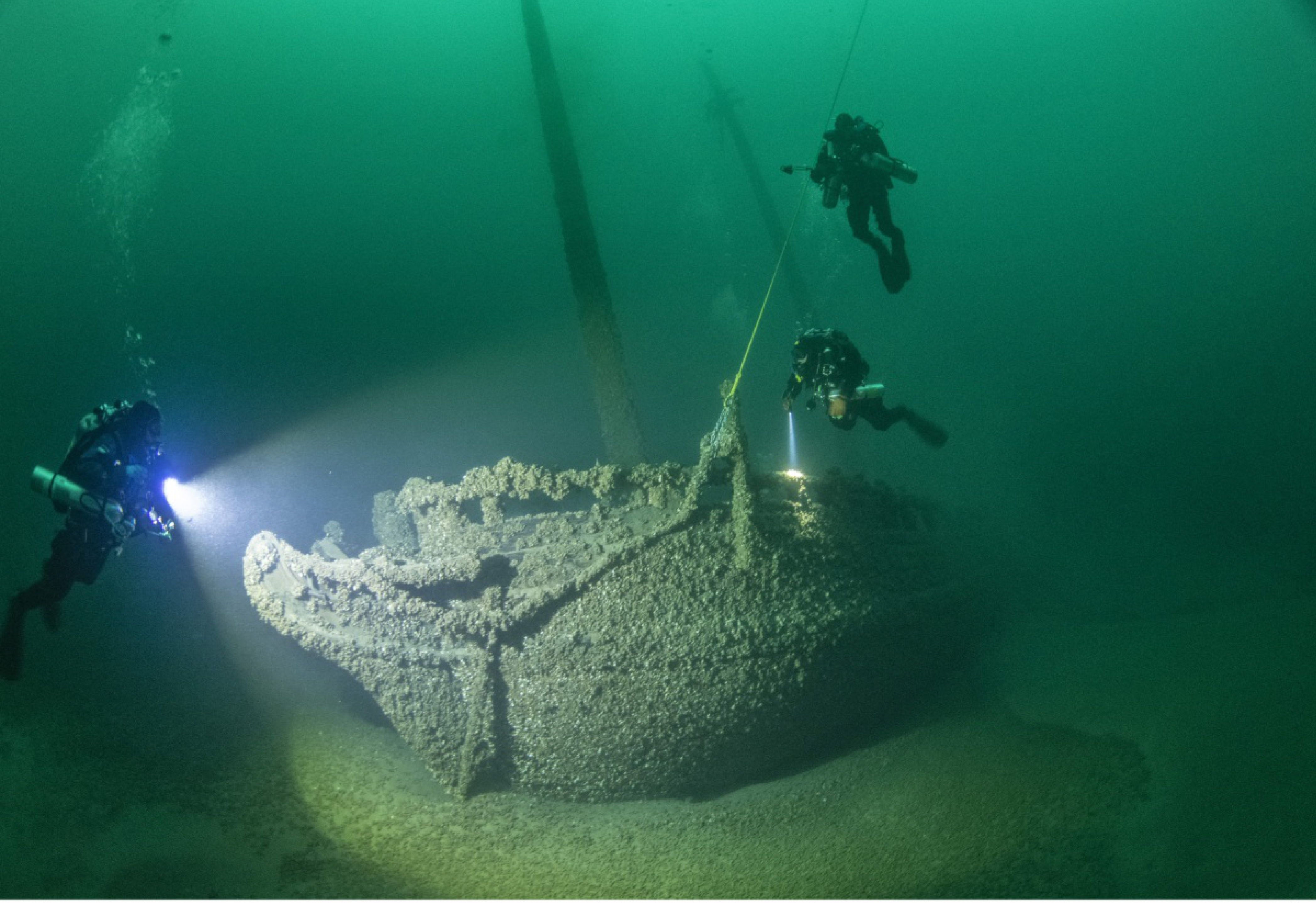
In September 2004, the State of New York responded and asserted the wreck was the "sole and exclusive property of the State pursuant to the Abandoned Shipwreck Act." NER's counter-argument was the wreck was not abandoned. NER believed it had discovered the long-lost *Caledonia*.

Caledonia (later *General Wayne*)

Built in 1799 on the River Rouge in what is now known as Windsor, Ontario, Canada, the *Caledonia* was built for the British North West Trading Company. The *Caledonia* would work the fur trade between Fort Erie and Mackinac, Michigan. At the outbreak of the War of 1812, as the Upper Great Lakes were controlled by the British, the *Caledonia* was converted to a British troopship. She was changed from a schooner to a brig and outfitted with cannons. The *Caledonia* was used by the British in the attack on Fort Michilimackinac in 1812.

In 1813, a group of American commandos took the British by surprise and captured the *Caledonia* on the Niagara River. She was converted to an American warship and later used in, and helped win, the Battle of Lake Erie led by Commodore Perry.

The *Caledonia* later sailed to the Detroit River where American troops invaded southern Ontario and recaptured the city of Detroit. She also took a group of settlers



A technical diver illuminates the bow of the "Dunkirk Schooner." The scroll figurehead can be seen devoid of zebra mussels. – Courtesy Jeremy Bannister.

and founded Fort Dearborn which later became the city of Chicago. Quite a remarkable history for a small ship.

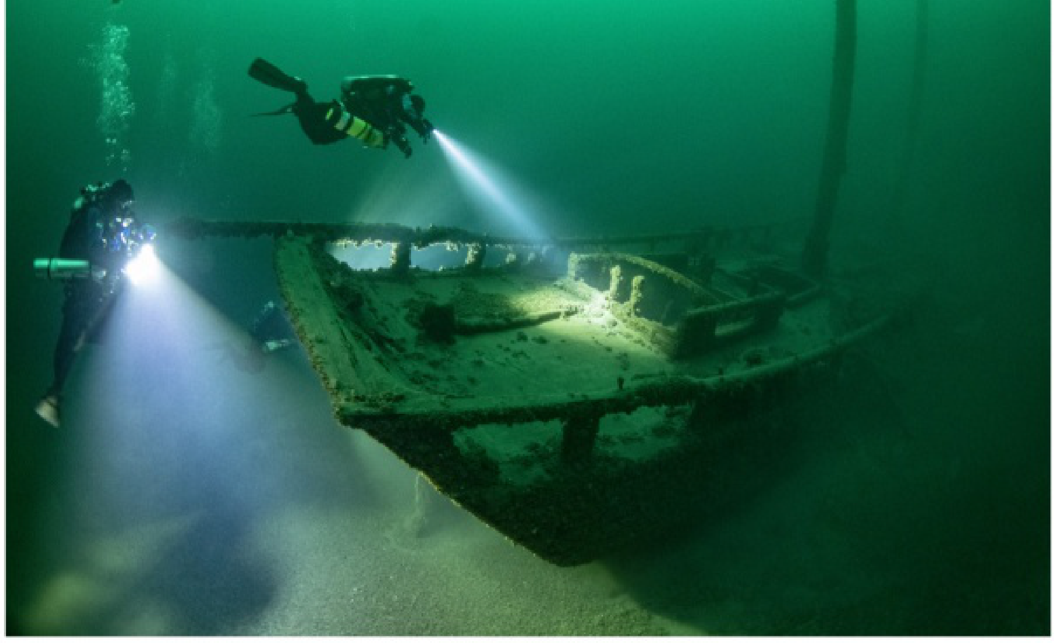
After her storied career, the *Caledonia* was recommended for sale. The United States Government stated she was "unseaworthy from natural decay." In March 1816, she was purchased by Rufus Reed and John Dickson of Erie, Pennsylvania. The 12 March 1816 edition of the Buffalo Gazette & Niagara Intelligencer reported "the old *Caledonia* is rebuilding." She was to undergo several significant structural changes including being re-rigged from a brig to a schooner. She was also supposed to be shortened. Upon her purchase she was renamed *General Wayne*. She was first enrolled at Presque Isle, Pennsylvania on 11 September 1816. However, no changes were noted from her previous enrollment as the *Caledonia*. The last mention of the *General Wayne* is in the 14 August 1818 edition of the Detroit Gazette. She departed Detroit en route to Buffalo. She was listed as being lost at the end of the season. The *General Wayne* never appeared in another periodical. There were never any details printed about her loss - she truly disappeared. Or did she?

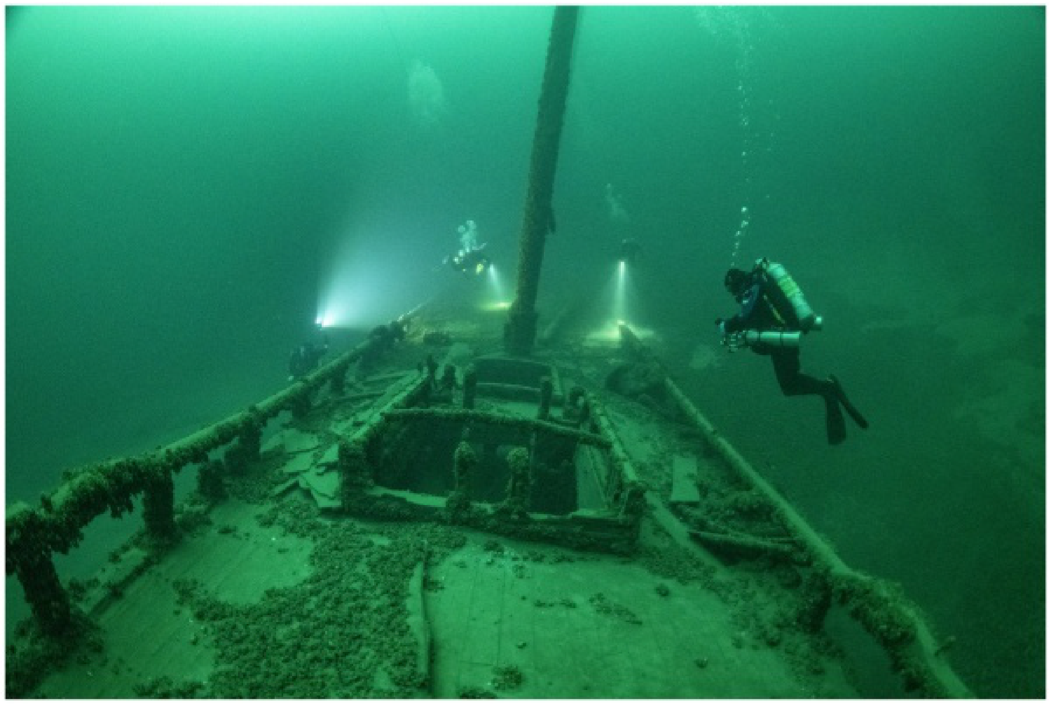
The Underground Railroad and Escaping Slaves

If the *Caledonia*'s history were not impressive enough - having fought on both sides of the War of 1812, having helped win the Battle of Lake Erie, and having been quintessential in the founding of one of the world's great cities - some state the *General Wayne* even played a decisive role in the Underground Railroad, helping escaping slaves to freedom. The *General Wayne's* owners were both active in the abolitionist movement. They represented the end of the Railroad - shipping escapees across Lake Erie to southern Ontario. According to The *Dunkirk Schooner Shipwreck Archaeological Site Assessment* by James Sinclair (2009), both the Dickson Tavern and the Reed Mansion "feature extensive labyrinths of underground passageways reportedly used to hide fugitive slaves prior to their final journey to freedom in Canada."

Based on the above information, NER proposed an intriguing theory regarding the *General Wayne* and her owners. NER and its researchers maintained the *General Wayne's* new owners, Reed and Dickson, both prominent citizens in Erie, Pennsylvania, could not risk exposure as individuals who not only supported the smuggling of slaves out of the country to freedom, but especially as individuals who funded it.

In order to not get caught or exposed while conducting their illicit activity of smuggling slaves to freedom, Reed and Dickson would need an inconspicuous and very in-





Top to Bottom: Two technical divers illuminate the "Dunkirk Schooner's" stern section. The tiller rests on the decking between the transom and the cabin. Visibility is often superb on this wreck as demonstrated by the ability to see the foremast in the distance.
– Courtesy Jeremy Bannister.

A striking photograph in which technical divers blanket the wreck in lights - a light at the stern, a light at the middle, a light at the bow. Courtesy Jeremy Bannister.

Looking forward from the stern. The tiller can be seen on the deck in the foreground. Most of the deck is free from zebra mussel encrustation.
– Courtesy Jeremy Bannister.

discernible vessel. One of the oldest vessels in their fleet at this time was the *General Wayne*. Having been built in the late 1790s, the vessel was over 30 years old in the 1830s. In order to accomplish this, the vessel would have to be stripped of any identifiable markings, names, etc. by which its owner could be identified. After extensive exploration, photography, and excavation, no markings have been discovered on the "Dunkirk Schooner." Could this be the long-lost *General Wayne*, stripped of all identification, used for the sole purpose of freeing slaves?

Back into the Courtroom

On 4 June 2008, the State of New York granted a permit allowing NER to excavate the "Dunkirk Schooner" through 30 August 2008. The license was later extended for one month to the end of September, and NER was authorized to take measurements, collect artifacts, and excavate cargo. It addressed the always taboo subject of human remains on wrecks. The permit stated if any human remains were recovered, NER must contact the State of New York to discuss removal and analysis.

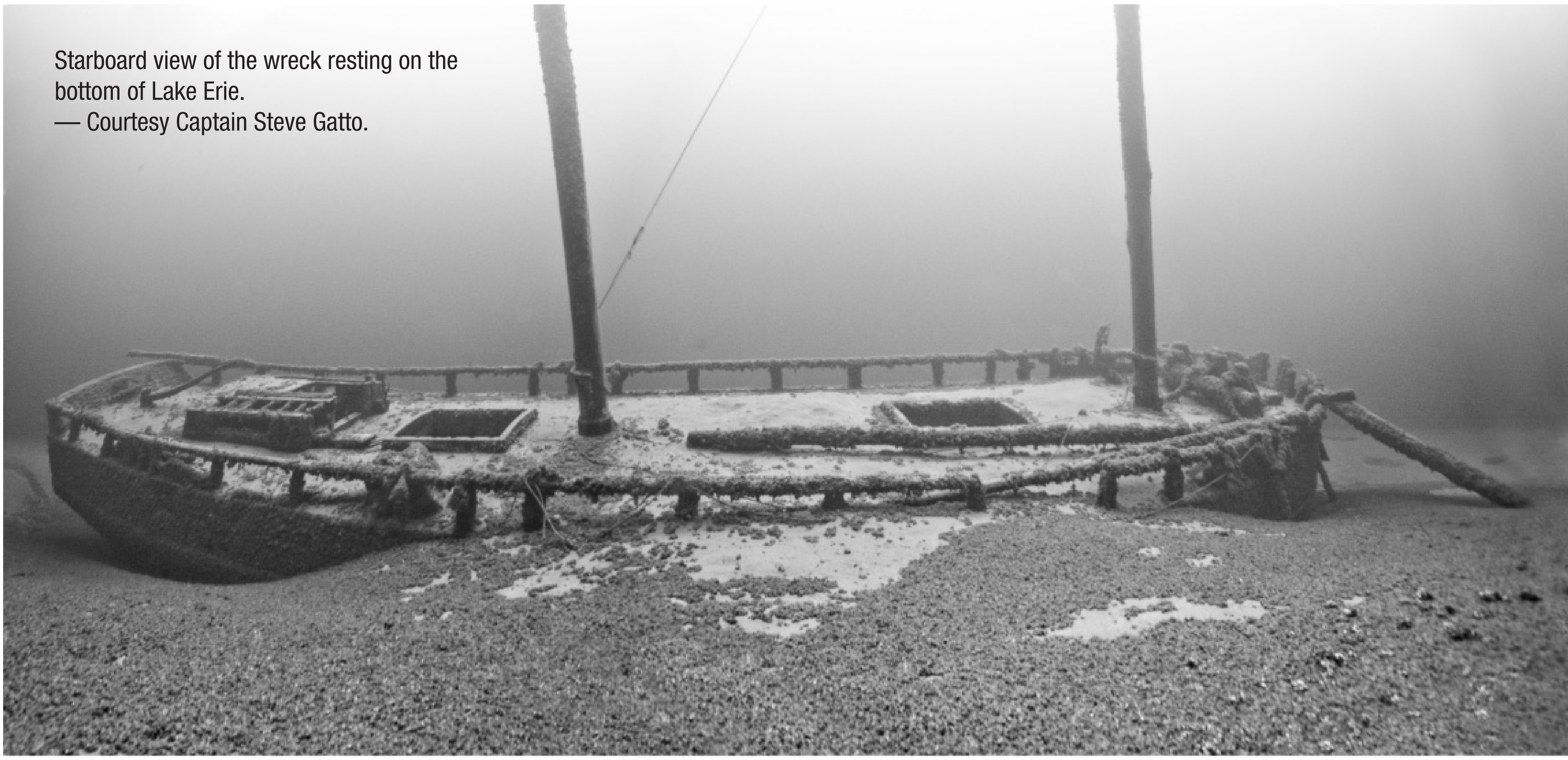
Into the Water - Recovering Artifacts

After the permit was secured, salvage and recovery operations commenced. Divers with extensive deep diving and technical diving experience were used to take measurements of the wreck. They also thoroughly photographed her. Core samples were taken from both cargo holds. Subsequent analysis of the forward hold revealed a cargo of wheat and barley. The after hold contained hickory nuts.

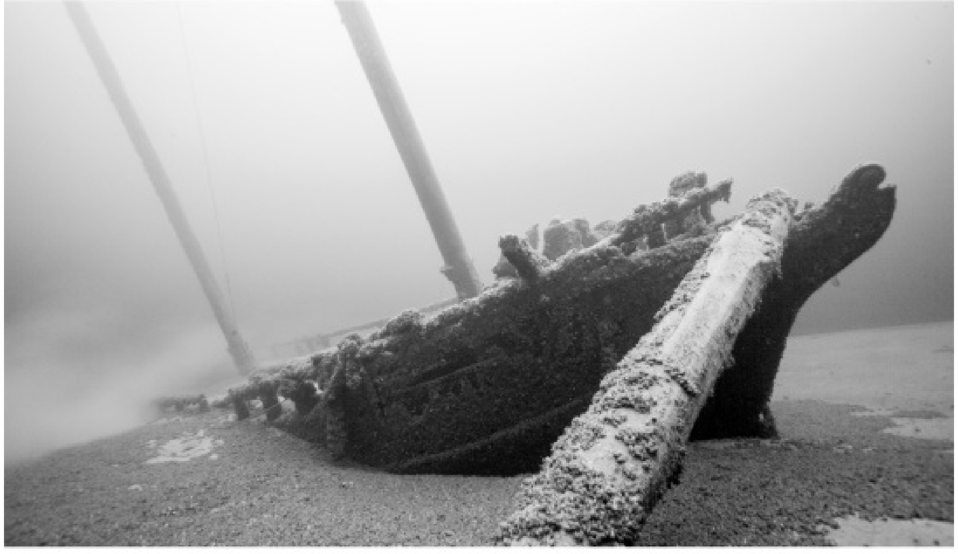
The divers used a hydraulic dredge with a small, mesh-lined, filter box which screened the discharge resulting from excavating the holds. They recovered some amazing artifacts including two compasses, pottery, watches, lamps, crockery, period furniture, brass buttons, and various coins ranging from 1797–1834. Some of the more remarkable finds allude to women being present on board when the ship foundered. Fragments of a Holy Bible and a publication about young women Christian missionaries were discovered along with ornate combs and female jewelry.

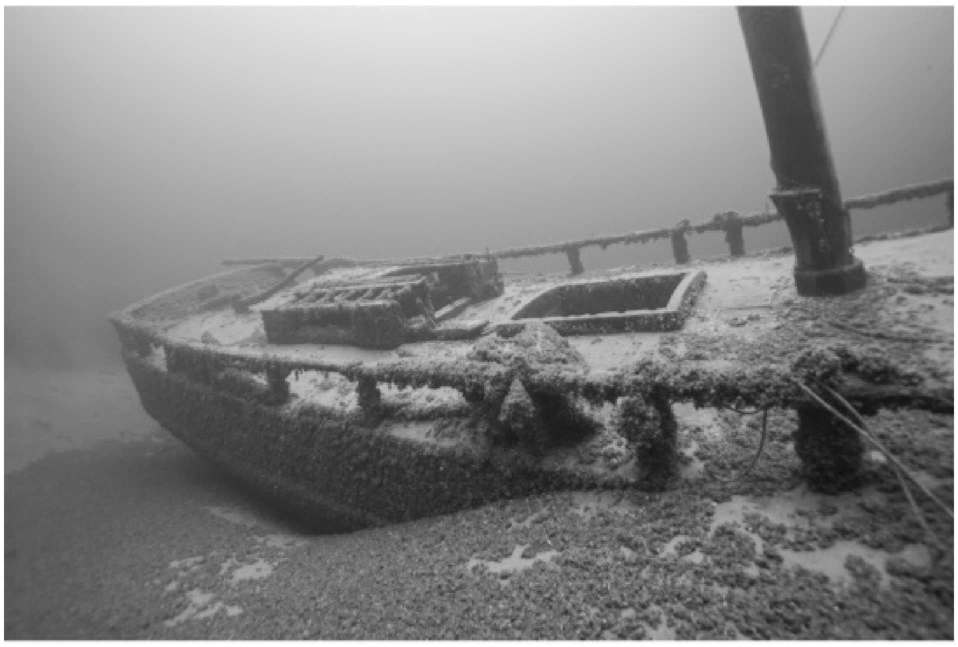
Human Remains

During the excavations, human remains were inadvertently recovered by the dredge. About a dozen, small, bone fragments (a mixture of fish and human) were captured in



Starboard view of the wreck resting on the bottom of Lake Erie.
— Courtesy Captain Steve Gatto.





This stunning photograph shows the scrollhead and bowsprit extending off the starboard bow.
– Courtesy Captain Steve Gatto.

The starboard aft half of the Dunkirk Schooner showing the cabin, hatch, and main mast. The unbroken low railing can be seen circumnavigating the deck.
– Courtesy Captain Steve Gatto.

the screen box. A forensic analysis was later completed at the Armed Forces Genetic Identification Laboratory. The results revealed the presence of a female victim.

Deep Destruction

On 21 October 2008, the State of New York alleged violations of the excavation permit due to the recovery of human remains without notice to the State, continued diving after the permit ended, and the removal of planks from the cabin roof in September 2008. There had been two divers excavating the interior of the wreck, but they discontinued operations at the end of August due to an incoming storm. They did not return for two weeks. When they did, they found that the deckhouse had been torn apart. They gathered up the boards and stacked them on the deck. They steadfastly maintain they were not responsible for the destruction.

The obvious question is, who did it? The answer will probably never be revealed although some person or people must know. Most of the serious wreck-diving community and the general public blamed NER for the damage, while NER placed the blame on divers who were "unauthorized intruders." It was widely acknowledged that even though the wreck was placed under arrest by NER, other divers still dived it. There are even photos available online which show divers on the wreck with the arrest papers visible. NER ultimately motioned the Court for an injunction against other divers diving the wreck. The motion was denied.

The Abandoned Shipwreck Act

On 4 March 2009, the National Park Service authorized the placing of the "Dunkirk Schooner" on the National Register of Historic Places. On 20 March that year, the

State of New York followed with inclusion on the State's Register of Historic Places. The United States magistrate judge stated "clear and convincing evidence in the record establishes an inference of abandonment."

NER located a descendant of Rufus Reed, owner of the *General Wayne*, who asserted her ownership. However, the Court did not find any evidence of a salvage attempt after the *General Wayne* foundered, and no known attempt by any family member to locate the wreck in the 170 years she has been on the bottom, and awarded title to the State of New York. NER appealed. However, the Appeals Court upheld the initial ruling that the State of New York had title to the "Dunkirk Schooner" because the vessel was abandoned by definition of the Abandoned Shipwreck Act of 1987.

Dive into History

A dive to the "Dunkirk Schooner" is really a dive into history. Divers rarely have an opportunity to visit a wreck purportedly constructed in the late 1790s. Visibility is typically very good on the wreck with 50-plus feet expected. Visibility has even been known to reach upwards of an astounding 100 feet.

As a diver descends to the wreck, the dual upright masts - which rise to a depth of 100 feet - can be seen coming into view sometimes as shallow as 60 feet. Both have crosstrees, but do not have top masts.

At the bow - which points west - an ornate, scrolled figurehead can be seen. This is a spot divers must visit, and is essential for those with underwater cameras. The bowsprit is no longer attached. However, it rests off the starboard side of the stem, angling down into the bottom. The port bow is highlighted by the presence of the port anchor lying on the foredeck. Chains still adorn the anchor and run across the railing to the stem. Aft of the stem is a windlass and a samson post.

Continuing aft, one sees that the foremast is still standing proud. Four deadeyes were once visible nearby until they were removed. A boom rests next to the starboard railing on the main deck. While heading to the mainmast, one will swim over a small cargo hatch.

A unique feature of the masts is that each contains an integrated fife rail on the back side of the mast. Fife rails are typically found at the base of the mast, surrounding the mast's entire circumference. These are typically destroyed when masts break, although there are still some wrecks which have intact ones. However, it is a very interesting feature, and one that I had not seen previously.

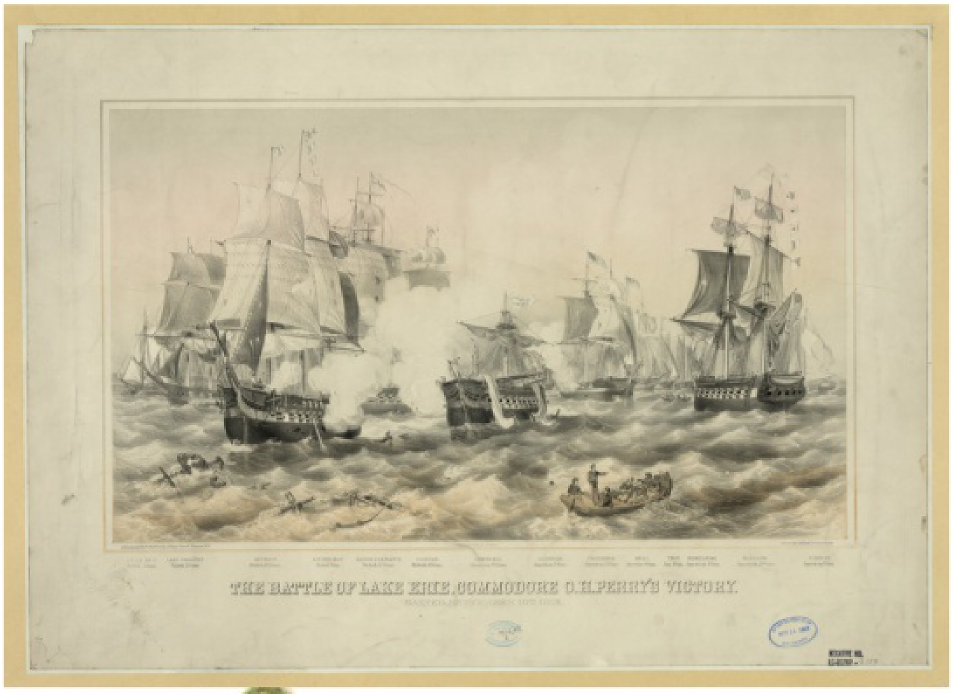
Aft of the mainmast is the aft cargo opening - roughly the same size and position as the fore cargo hatch. Just beyond this is the aft cabin, which is of very low profile for a cabin. The cabin was previously fully intact with the exception of a few missing planks of wood. All of the roof boards have been removed and stacked on the main deck along the exterior cabin walls.

A unique feature outside on the main deck is a pair of large hand pumps located on the forward corners of the cabin. The cabin was fairly full of silt until it was excavated. Stairs used to be seen heading down into the ship. Shelves could also be seen below decks. A large tiller (precursor to the helm or wheel) was once intact and looked as if it could still be used to steer the ship. Unfortunately, the tiller now lies on the deck, having been removed from the rudder post.

The transom is an essential stop for the underwater photographer with its two, large, very rare, uniquely placed, square windows which look directly into the cabin. I highly recommend putting it on your shot list. As you stare from the outside hovering motionless and looking into the cabin, you can imagine staring at the captain looking out into the lake from these windows in the early 1800s. The intact rudder can be seen underneath the transom. Due to the schooner's list to starboard, the entire underside hull on the port side is open for viewing - a very impressive sight.

About the Author: Erik Petkovic has been diving wrecks in the Great Lakes and along the U.S. East Coast since 1996. Erik is an expert shipwreck researcher and has been published in many international dive magazines. Erik is the author of the critically acclaimed and highly regarded *Shipwrecks of Lake Erie Volume One.* A highly sought-after speaker, Erik is available for presentations and seminars.
More can be found about Erik at www.ErikPetkovic.com.

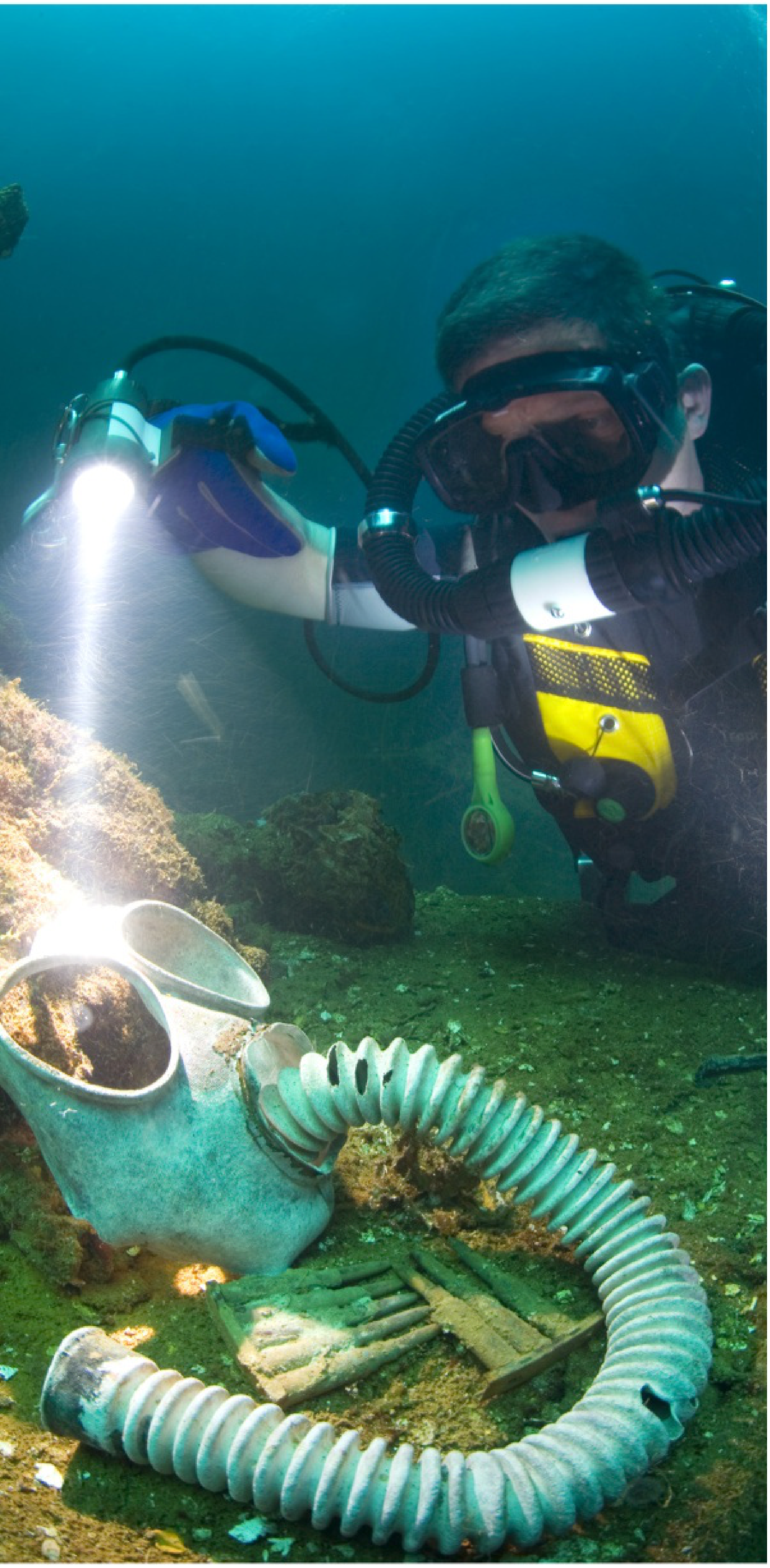
Below: A rare lithograph from 1878 depicting Oliver Hazard Perry's victory over the British Navy in the Battle of Lake Erie on September 10, 1813. The *Caledonia* is adjacent to the *Lawrence* and behind the lifeboat. Erik Petkovic Collection.


THE BATTLE OF LAKE ERIE, COMMODORE O.H.PERRY'S VICTORY.

A pocket watch with cover discovered below decks in the "Dunkirk Schooner."– Courtesy Pat Clyne.

Ghost Ships of Truk Lagoon

By Leigh Bishop



Diver Gary Townsend inspects a gas mask on the *Fujikawa Maru.*

The adventures to be experienced with the underwater exploration of the mysterious Ghost Fleet of Truk Lagoon remain unparalleled. The wrecks in this most famous of lagoons represent some of the most well-preserved shipwrecks in the world. Truk Lagoon remains one of the great undersea wonders of the world. The moment visiting divers break the surface of the beautifully clear, blue Pacific water and descend to one of the seventy-plus wrecks that litter the seabed, they are captured by this underwater museum that can only be described as a wreck divers paradise.

I originally travelled to Truk Lagoon specifically to take advantage of rebreather technology and explore many of the less-dived (if dived at all) wrecks in the deeper waters of the Lagoon. Following a morning dive on a deep wreck, each afternoon was spent exploring one of the many shallow wrecks that are popular destinations for just about every diver visiting Truk. The shallow-water wrecks represent some of the most famous and most dived wrecks in the Lagoon and, with so many of them to dive, it's easy to see why.

The group of international divers with whom I had travelled to Truk had all come armed with Inspiration and Evolution rebreathers. The rebreathers allowed us to extend our bottom times even on the shallower wreck sites. By optimizing the gas we breathed with our closed-circuit rebreathers, we were able to spend as much time underwater in one week as an open-circuit diver would in five weeks. We could spend two to three hours exploring one of the Lagoon's shallow wrecks with little, if any, decompression!

Every wreck in Truk Lagoon has its own unique character and it's difficult to pick one that stands out over another. Most of the wrecks have cargos which consist of tons of munitions and, for almost 25 years, no one could touch the Lagoon owing to the risk of setting off any of the thousands of unexploded bombs. Today, after some lengthy reclamation work, the shallow waters allow recreational divers to see no fewer than forty of the wrecks, as well as several sunken aircraft. It's impossible to explore them all, but any diver armed with a rebreather visiting Truk can certainly explore many more than the ordinary recreational diver can.

For me, two sister ships, the *Momokawa Maru* and the *Nippo Maru*, (both sunk in the Lagoon)

stood out as fine examples of classic wreck dives. These wrecks were both modern, five-hold, passenger cargo ships, but what really stood out for me were the well-preserved engine rooms. The *Momokawa Maru* lies completely over on its port side from 24m/80ft to 40m/132ft deep, and much of its cargo of aircraft parts and engines has now fallen to what was the port hull of each hold. The wreck is completely intact, with access to the engine room via the skylights on top of the superstructure or quite literally through any of the open doors on the stern decks. One may just simply swim along the internal passage ways, past the galley, until one finds the doors leading down to the room itself. By dropping through the skylight above, divers feel as if they are skydiving effortlessly down through the darkness to the lower levels. Here, gravity has long since gone, and the gantry walkways the Japanese once used can be seen on both sides, as the divers glide down to the engines below. As with many of the wrecks, these intact engine rooms are a history lesson in engineering in themselves. Anyone who has often explored a broken steamship was perhaps left wondering what it was they saw and what it was once used for. With the intact wrecks here in Truk, a diver can spend time inside a fully intact engine room and see everything as it once was. Even the workshops located in the far corners of these engine rooms with their cage-like open doorways lead the diver to benches where vices and tools are still as they were when the ships sank.

Below: Diver examines the interior of the 'Betty Bomber'

The *Nippo Maru,* in a depth of between 27m/89ft and 50m/165ft, is no different and, to the agreement of several of the divers in my group, the engine room inside the *Nippo Maru* was a stunning and awesome diving experience. Here, lamps still hang by their cords from the ceilings and, while the wreck lists to port, the diver is able to keep a true sense of direction. Huge electrical sub-boxes can be seen, as well as advanced evaporators, telegraphs, and all manner of machinery that powered these massive steam engines. Steam gauges, albeit in Japanese, can clearly be read and are fixed to panels alongside dozens of others, all with tiny pipe work that winds its way around the engines themselves.

The *Nippo Maru* was discovered by the Cousteau expedition in 1969 but, since then, the past forty years have blessed the wreck with that unmistakable, deep-red, rusticle appearance, an appearance that really makes you think you are inside an historic wreck thousands of feet below the surface. Divers lacking buoyancy skills are likely to stir up the years of sediment that now lightly covers the internal workings and passageways of these fabulous wrecks. As the *Nippo Maru* faces almost vertical, the midday sun forces rays of light through the skylights of the wreck, and, looking up from the lower levels of the *Nippo*'s engine room, the diver can see the gantry walkways fabulously silhouetted above them. On the opposite side of the bulkheads, the diver will find cargo holds filled with various artillery shells, radio sets, medical supplies, bottles, mines, detonators, barrels, and those gas masks that make for iconic Truk Lagoon photographs. On the deck outside, a Japanese battle tank has slipped to the port side while howitzer guns with their splinter shields grace the aft decks, and a single helm telemotor and lone telegraph still bolted to the deck give a ghostly appearance inside an intact bridge deck.

Truk Lagoon, known as Chuuk, is in the Federal States of Micronesia, the collective name given for the various island groups in the central Pacific. The islands lie east of the International Date Line and halfway between the Tropic of Cancer and the Equator. With an area of 825 square miles, Chuuk has one of the largest natural lagoons in the world and became an important strategic command post for the Japanese during World War Two. In February of 1944, the Allies launched a massive air attack on Chuuk, named "Operation Hailstone," from no less than nine aircraft carriers that surrounded the islands. Unaware, the Japanese were caught off guard by the attack which became known as the "Japanese Pearl Harbour." What was left from the attack now stands as one of the great undersea wonders of the world.

The most dived wreck in Truk is, without doubt, the magnificent *Fujikawa Maru* and, at 12m/40ft to 35m/132ft deep, the wreck makes for a perfect first dive. The wreck is famous for its forward hold that contains a cargo of zero fighter parts as well as a complete aircraft with its cockpit open and dials exposed. Down below in the engine room workshop, divers are greeted by the iconic image of an air compressor, photographed many a time due to its *Star Wars* R2D2 appearance. Alongside this compressor is a work bench with open vices and an open draw of tools,

The stern gun and its remaining base platform on the wreck of the *Amagisan Maru.*

The broken stern propeller on the *I-169* Japanese Submarine *Shinohara.*

Italian Diver Gabrielle Paparo looks at an iconic gas mask on the *Kiyosumi Maru*

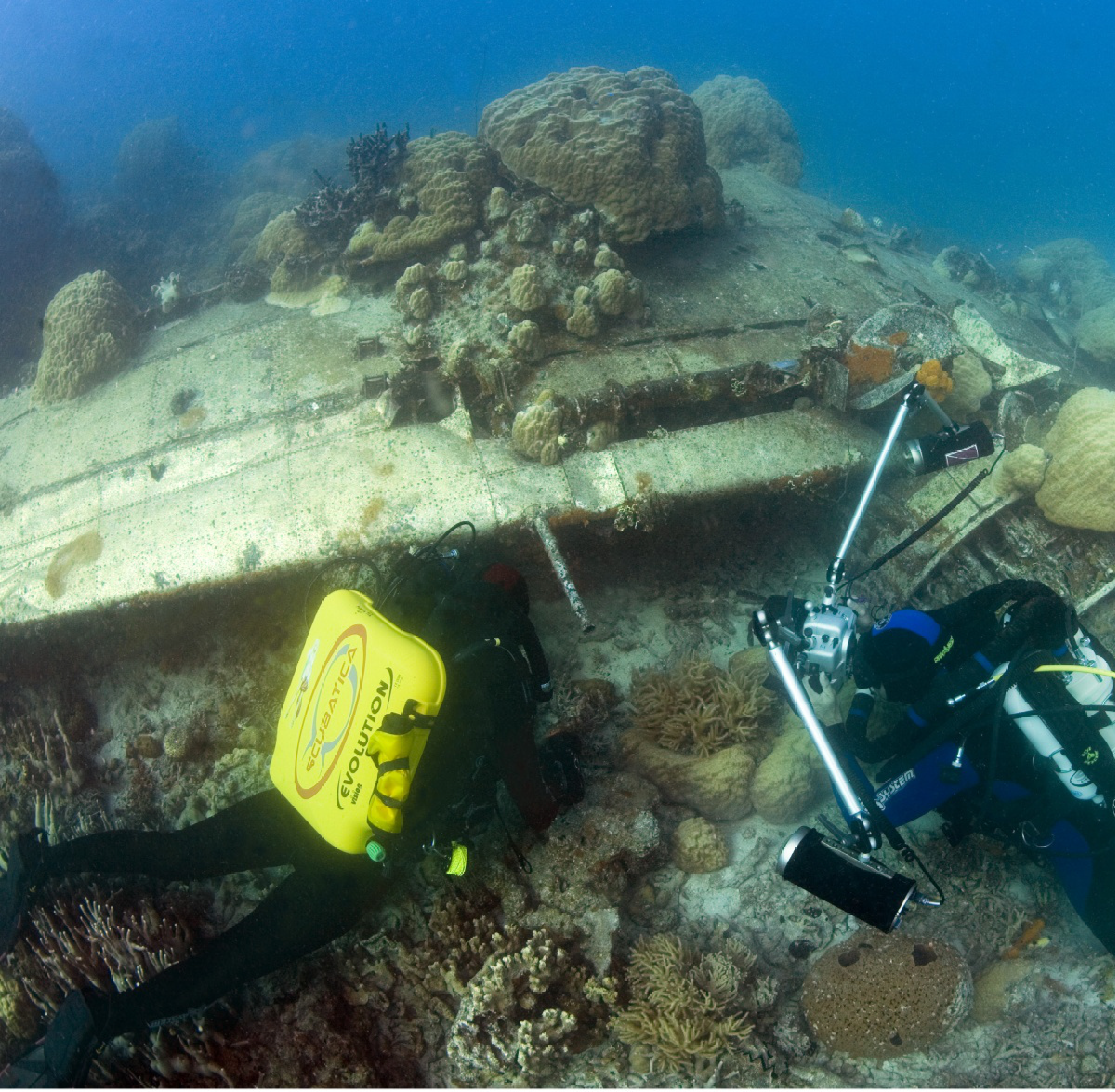
and the shelves above are filled with spare parts of all types. Narrow passageways among the pipe work lead to the lower engine room spaces. Because of the shallow depth, marine growth has taken on a life of its own on the *Fujikawa*. Beautiful candelabra sponges have grown extensively on the bow and an abundance of marine life swims amongst colourful anemones. The holds of the *Fujikawa* are extremely large, but well lit, and the water is clear, so that even divers new to the sport can explore inside this wreck without losing sight of the surface. The magnificent amidships areas contain the main bridge and accommodation areas and even the smoke stack still remains intact, proving the point that there is little, if any, water flow in the lagoon.

A favourite of many divers visiting Truk Lagoon is the wreck of the *Hoki Maru*, if only for its interesting cargo of vehicles. In hold number five at the stern of the wreck, divers will find all manner of Japanese-made vehicles: bulldozers, prime movers, trucks, tractors, and even a diesel roller. The trucks are standard Isuzu-type-94 trucks and are neatly packed inside the hold, lightly covered with a fine layer of silt, which is easily disturbed. Photographers should take advantage of being the first inside to capture this unusual cargo. They will also be attracted to the broken amidships area which supports an amazing assortment of red, pink, yellow, and orange alcyonarians, accompanied by enormous crinoids that make the wreck look like a extravagant Mardi Gras celebration.

Enter through the engine room where you'll see a complicated mess from the severe damage, but inquisitive divers will soon find themselves at the lower engine room levels which are just as recognisable as any intact engine rooms of other wrecks. Most divers explore the stern section of the wreck, which is the most intact and recognisable, and especially since it is here where most of the visually interesting cargo can be found. The ship's main aft mast still stands proud. An excellent way to pass decompression time is to follow the mast to the surface and enjoy the incredible explosion of colours from the marine growth jam-packing every square inch. Depth to the *Hoki Maru* is just 24m/79ft to the deck, but be careful, the seabed around the upright vessel is deeper at around 56m/185ft.

Many of the wrecks sunk in Truk made up the bulk of the Imperial merchant fleet which carried supplies for the war effort, hence, the name tagged to each ship – "*Maru*" - meaning merchant.

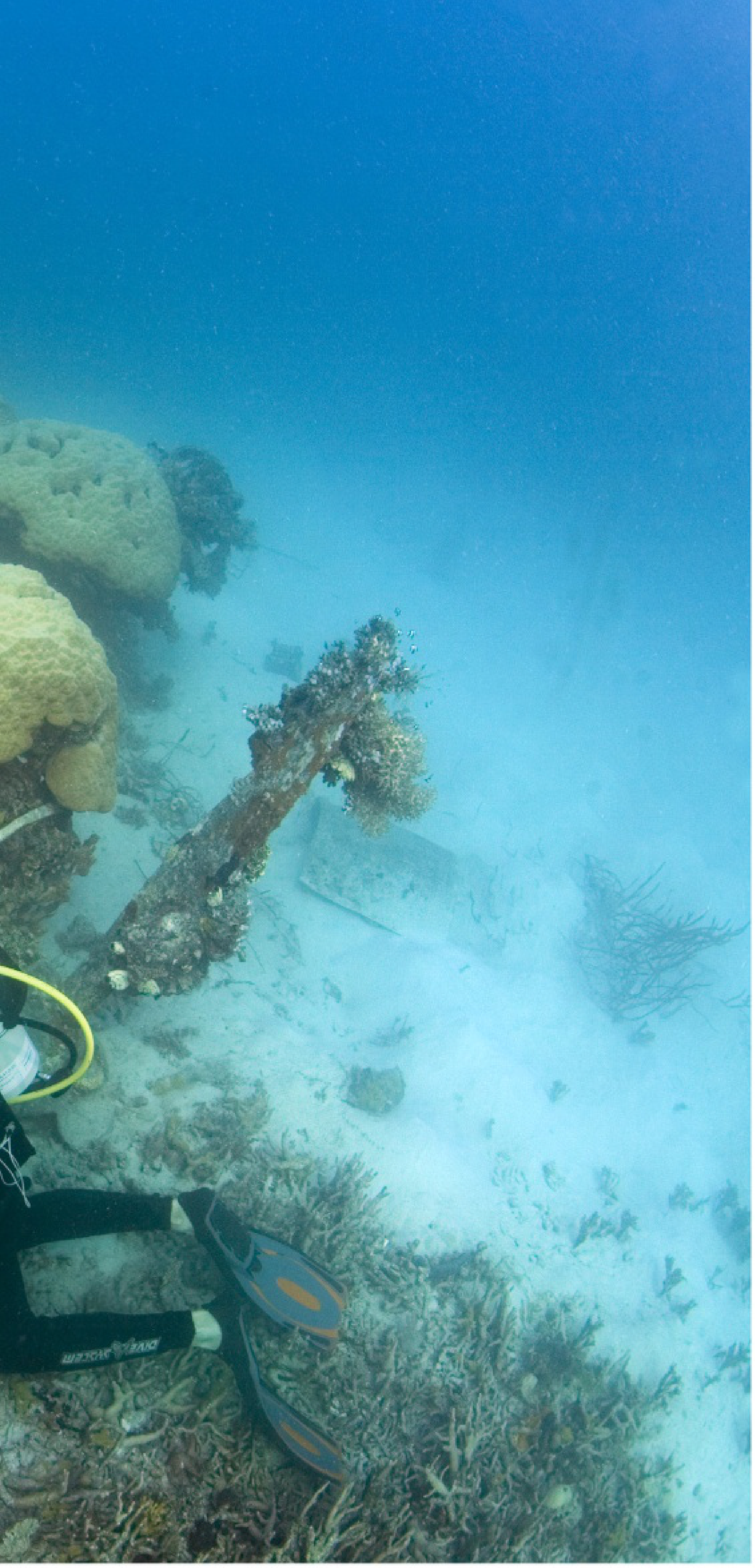
Because of the heavy aerial bombardment of Operation Hailstone, the Lagoon contains many interesting aircraft that were shot out of the sky which now mostly lie in shallow depths. These wrecks make for an excellent third or fourth dive of the day and take only minutes to explore, so guides are happy to stop the boats on the way back to the Blue Lagoon Dive shop, drop anchor and allow visitors to explore. Some of the aircraft lie upside down, such as an unknown zero fighter off the northeast end of Eten Island in only 3m/10ft or 4m/13ft of water. Although heavily covered in coral, machine guns can be seen protruding from the wings and the engines, and propellers can clearly


SCUBATICA
EVOLUTION
vision
SCUBAPRO
SYSCEM

Above: Divers investigate an upside-down Japanese Zero fighter plane in Truk Lagoon.

Left to Right: Heavy marine growth now covers the shallow wrecks such as here on the *Amagisan Maru.*

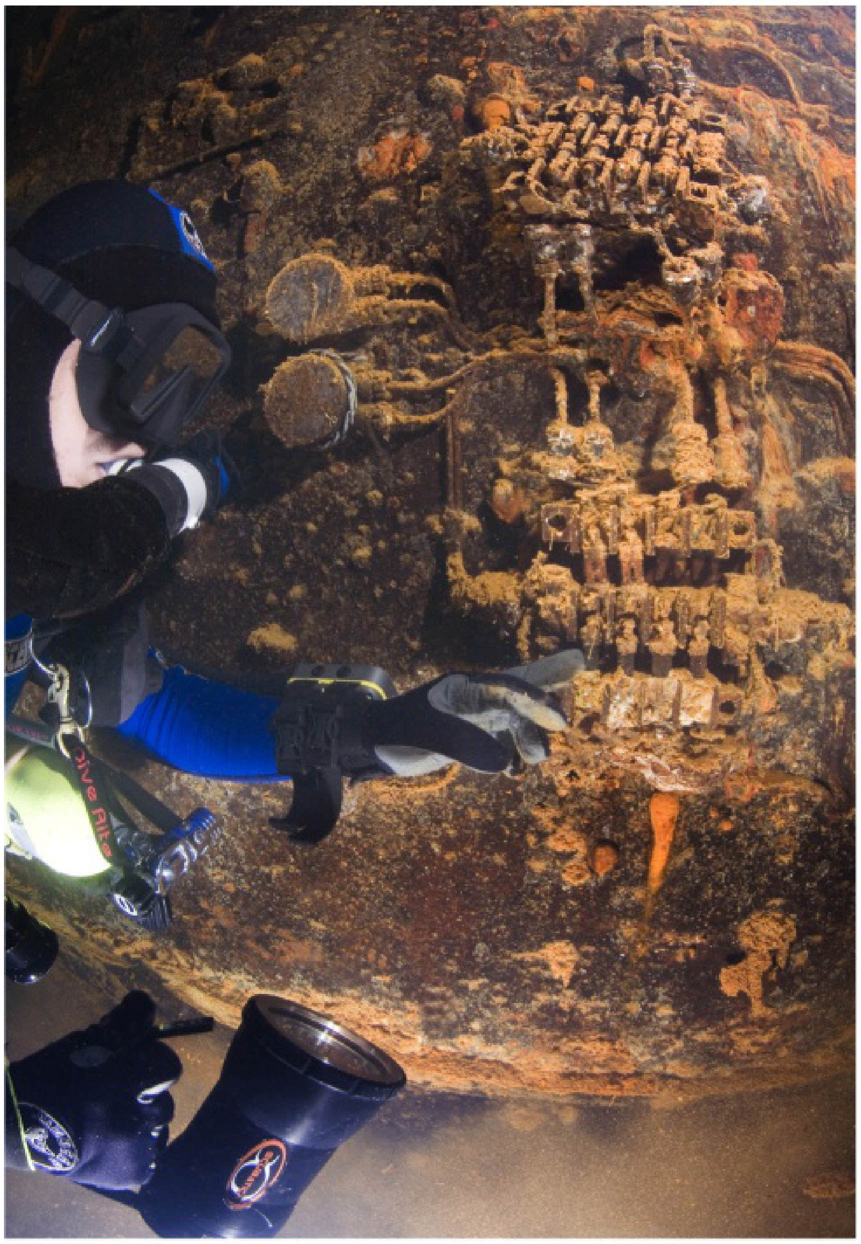
Diver looks over battleship artillery shells stowed in the holds of the *Yamagiri Maru.*



be seen as well. Eten Island was the main runway for the Japanese Kamikaze fighter planes as well as larger bomber planes, and, off the end of the runway at either end that drops into the ocean, two interesting aircraft wrecks can be explored. Known as the "Betty Bomber," this Mitsubishi attack bomber plane lies in just 15m/49ft of water off the southwest of the island and makes for a visually interesting dive. Little marine growth can be found on the aluminium exterior skin of the aircraft, and divers will find that the nose section forward of the wings is torn away, with the engines some distance off. Ask a dive guide to show you the way to these and they will be only too glad to help. At the opposite end of the island's runway, we explored the "Kate Bomber" which is rarely visited by divers. At 35m/115ft deep, it took our guide sometime to find the wreck, but when he had secured a line down to the wreck, it was indeed a real treat. A friend had mentioned this wreck to me in the past and explained that it was perhaps one of the most intact and upright torpedo bombers there was in the Lagoon. He wasn't wrong, and the fine layer of silt that covered the wreck showed it had not been disturbed by divers in a long time. I discovered this wreck in pristine condition; the instrument panel and control column could be seen as well as the rear-facing machine gun. The observant diver will even notice a number of bullet holes in the fuselage.

Not far from the Blue Lagoon dive resort is another wreck site that I found incredibly interesting - the *Shinohara*, the Japanese submarine *I-169*! Although extensively damaged on the bow and fore ship during the air attacks of Operation Hailstone, this wreck nevertheless made for an excellent dive. Let's face it. How often do you get to explore a sunken Japanese submarine? Not often, I would imagine! Again, with the explosion of colours from the coral that grows on the wreck, photographers will have more than plenty to photograph. There are open hatches on this wreck which appear very inviting for inquisitive divers to explore within, but beware of becoming trapped inside. Although the *I-169* is not the most popular wreck site in Truk, visiting divers should take advantage of the rare opportunity to dive a Japanese submarine. Before doing so, read a little of its history. Its involvement in the Pearl Harbor attacks and the events surrounding its loss at Truk add to the enticement of exploring the wreck.

Our expedition of over twenty divers used Inspiration and Evolution rebreathers and was land-based at the Blue Lagoon resort and dive shop. The guys at the Blue Lagoon had set up a dedicated area for us to prepare and maintain our rebreathers. Each day, six divers per boat took a maximum of approximately 15-20 minutes to reach one of the farthest dive sites. If a live-aboard boat had moored up on a site for the day, we just darted off to another site to avoid too many divers on any one wreck. The Blue Lagoon was geared up to supply divers with oxygen and diluents for the rebreathers, and their vast experience and knowledge of the wreck sites, many of which they themselves had discovered over the years, meant that any wreck we wished to dive was in the cards. The other advantage of being land-based meant that, when we were



not diving, our guides could use the little boats to take us to the different islands and literally into the jungle to explore Japanese buildings and mountain gun stations that had stood still in time since Operation Hailstone back in February 1944.

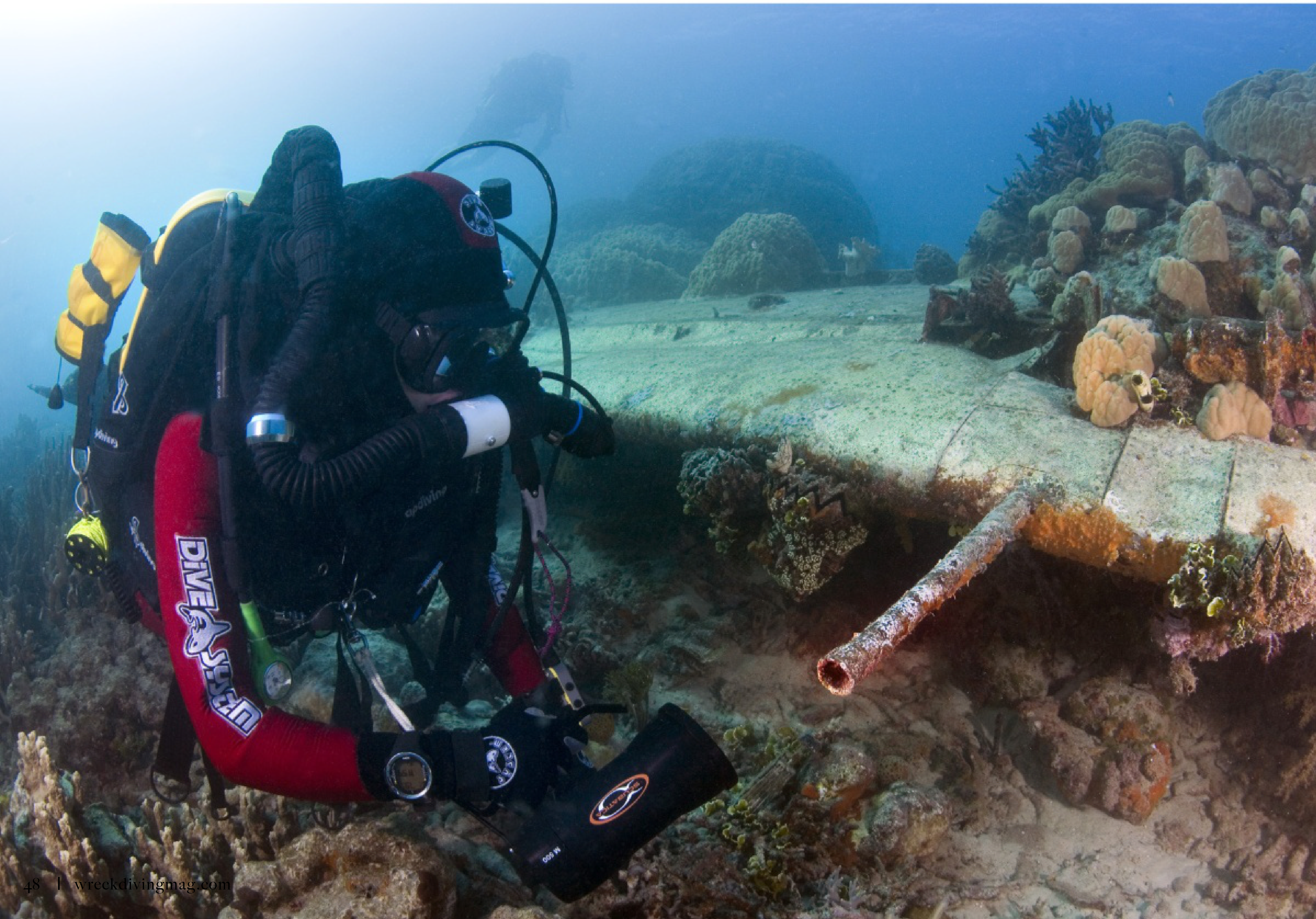
More information about diving in Truk Lagoon can be found on the Blue Lagoon website: www.truk-lagoon-dive.com

---

Left: An electrical circuit board inside the wreck of the *Kiyosumi Maru.*

Below: Diver examines the wing machine gun of a Japanese Zero fighter plane.

About the Author: Leigh Bishop, a world-renowned, deep shipwreck photographer and technical diver, has been on expeditions to many famous shipwrecks and has explored over 400 virgin shipwrecks in the last 20 years. He works for the fire & rescue service and lives in England.



Left: Fans of coral decorate the outside of the wreck of the *Yamagiri Maru.*

Right: Hold-loads of bottles await the diver inside the *Nippo Maru*

DISCOVER WHAT'S HIDDEN BELOW

Sea Hunter™ Mark II

200 foot operating depth

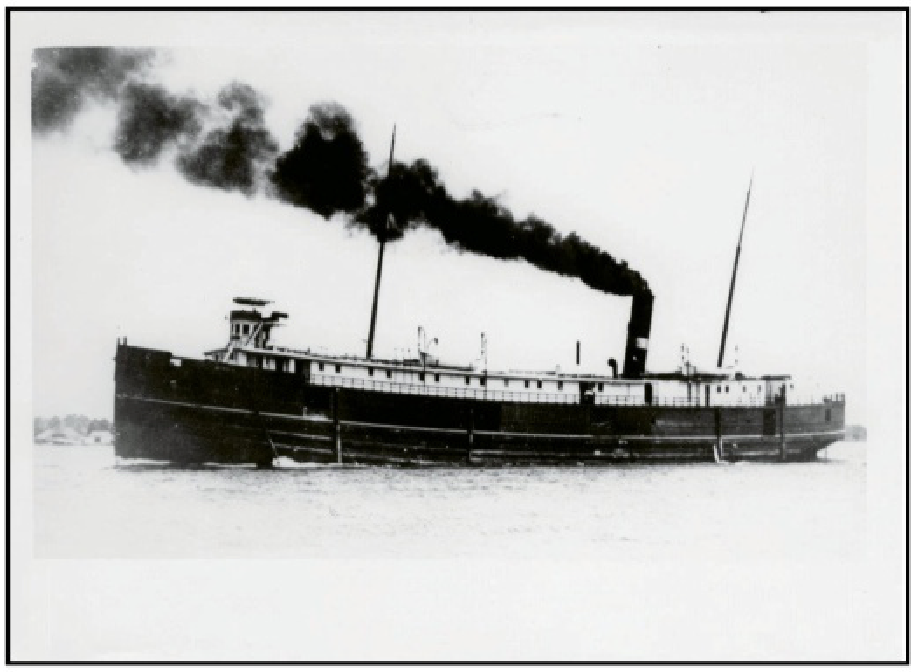
GARRETT METAL DETECTORS

Visit garrett.com for more information

Made in the USA

110-year-old Great Lakes Shipwreck Mystery Solved

Text: Tom Farnquist
Underwater video freeze-frames: John Janzen
3-D Mosaic: Jerry Eliason



CIRCA 1906: 231-foot-long *Russia* steaming along in fair weather between Port Huron, Michigan and Duluth, Minnesota. The *Russia* was lost to a storm on her first trip of the season April 30, 1909.
Photo courtesy: C. Patrick Labadie, Thunder Bay NOAA Marine Sanctuary Collection

SAULT STE. MARIE — Before the winds began to rile a peaceful Lake Huron on April 29, 1909, there was much for the men aboard the *Russia* to talk about as the 231-foot [70-m]-long, package-freight vessel made her way from Port Huron to Alpena, Michigan.

Fresh off his inauguration a month earlier, America's largest president, William Howard Taft at 340 pounds by historical estimates, was occupying the White House, while his predecessor, Theodore Roosevelt, was preparing to embark on an African safari. In early April, famed explorer Robert Peary became the first man to reach the North Pole. New $20 coins were in circulation as the Liberty Head

Double Eagle first struck in 1850 had been replaced in 1907 by the Saint-Gaudens version with Miss Liberty now walking across a rocky outcropping of solid gold.

There was no time for idle chatter as the *Russia* docked in Alpena at the Huron Portland Cement Company to load a shipment of 1,000 bags of cement destined for Lake Superior ports hundreds of miles away. The Russia had already taken on two carloads of wire fencing, 1,000 pairs of galoshes (rubber boots), cases and barrels of dry goods, and rumored 1909 motorcycles.

Powered by twin, steeple-compound steam engines, the *Russia* was "heavily laden carrying enough cargo to warm any owner's heart," when Captain John McLean left Alpena on the evening of April 29. Captain McLean reported that "we cleared Thunder Bay, rounded Thunder Bay Island, and nosed northwest across Lake Huron toward Point Detour, a distance of 73 miles [118 km]." A steady southeast breeze was beginning to build off the *Russia*'s starboard quarter.

As newspaper accounts reported, weather conditions rapidly intensified.

Once out in the open lake, Captain McLean found sea conditions deteriorating by the minute. By the time the *Russia* came abeam of Middle Island 10 miles [16 km] north of Alpena, winds had reached gale proportions with winds averaging 40-50 miles [65-80 kmh] per hour. The 37-year-old *Russia* began rolling severely, influenced by

18+

WHAT IS

AVAXHOME?

AVAXHOME -

the biggest Internet portal, providing you various content: brand new books, trending movies, fresh magazines, hot games, recent software, latest music releases.

Unlimited satisfaction one low price
Cheap constant access to piping hot media
Protect your downloadings from Big brother
Safer, than torrent-trackers

18 years of seamless operation and our users' satisfaction

All languages
Brand new content
One site

AVXLIVE.ICU

AvaxHome - Your End Place

We have everything for all of your needs. Just open https://avxlive.icu

her heavy deck load.

A lull in the storm evidently convinced Captain McLean to continue instead of turning back, that is, until the cargo began to shift, causing a list to port. With a call of "All hands on deck!" the crew began moving the bags of cement by hand, to counteract the list. After two hours of what Captain McLean reported as "back-breaking labor," it appeared as though the *Russia* was returned to an even keel.

"Then the real blow fell," read the old account. "Without warning of any kind, the vessel's smokestack scribed a long arc in the sky as she rolled severely to port, caught herself just in time, then rolled speedily to starboard."

Despite a laborious effort to once again correct the list, the crew, seemingly making no headway, were ordered to begin throwing the cement bags into Lake Huron in a failed bid to lighten the load and save the *Russia* from capsizing.

"This is it, fellows," Captain McLean reportedly said, ordering the 22 crewmen and one unidentified passenger to head for the lifeboats. "We're leaving her here and now." And, so they did in the early morning hours of April 30, 1909. Under tremendous stress and extremely difficult conditions, the crew launched three of the four boats into the raging sea. The men manning the oars began the excruciating pull toward the Detour Lighthouse, approximately12 miles [19 km] to the northwest. Amazingly, all survived the ordeal. Cold, wet, and exhausted beyond description, they safely reached shore a little before dawn, much to the surprise of residents watching along the coast.

Hearing about the *Russia* since my teenage years, "I told my wife, Chris, if I don't accomplish anything else this summer, I am going to find the *Russia*," explained Great Lakes Shipwreck Historical Society founder and Director Emeritus Tom Farnquist.

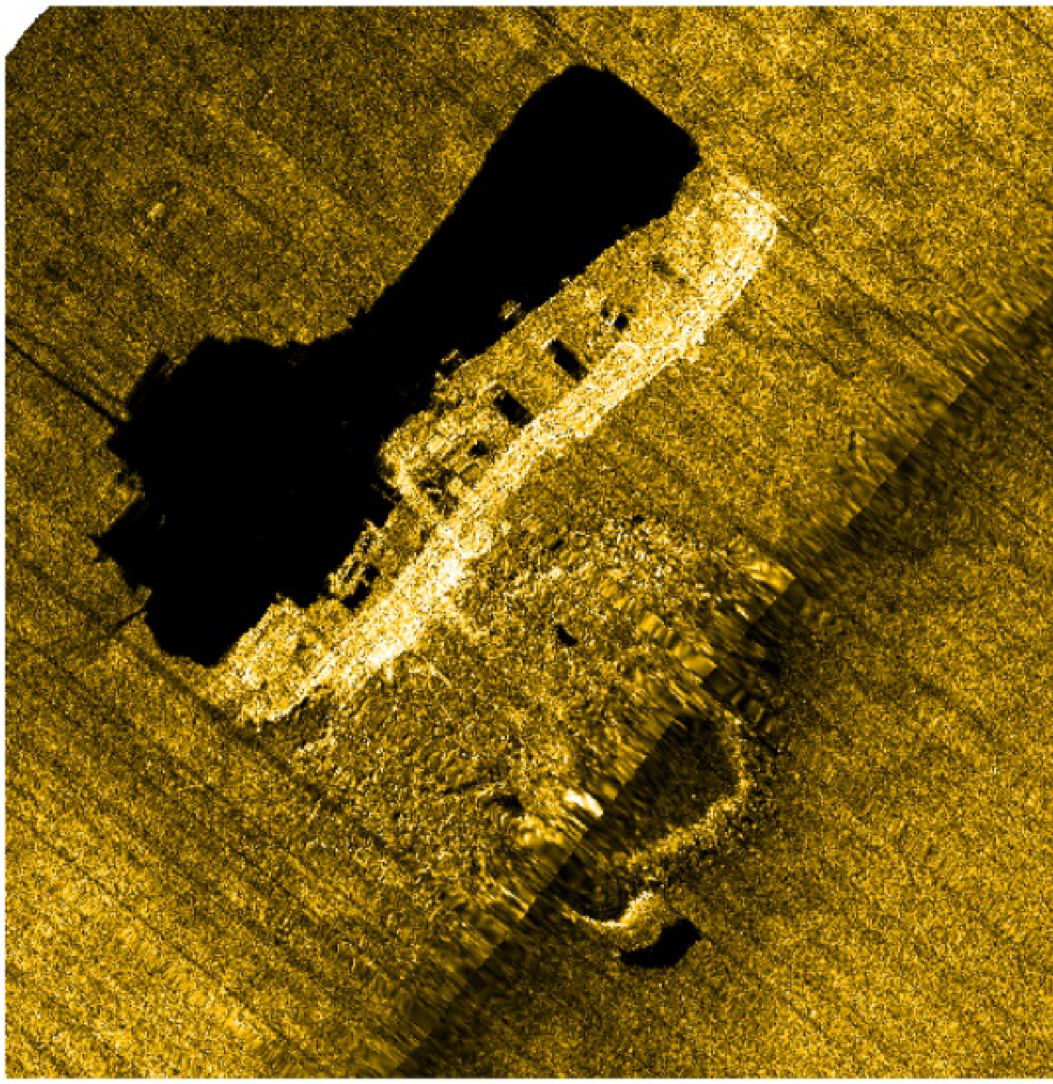
Last winter Tom contacted and convinced fellow shipwreck enthusiasts from Minnesota, Ken Merryman and Jerry Eliason, to assist in a search for the elusive *Russia*. Both Ken and Jerry have successfully located dozens of previously undiscovered Great Lakes shipwrecks over the years. Captain Ken Merryman is founder of the Minnesota-based Great Lakes Shipwreck Preservation Society and owner of the dive boat *Heyboy*. The *Heyboy* was used to conduct digital sonar operations to search for the *Russia*. Jerry Eliason is recognized as a shipwreck enthusiast, retired diver, and designer of a unique, drop-camera system that records high definition video he uses to create incredible 3-D mosaic imagery, like the one of the *Russia* featured in this article.

The *Russia's* final resting place remained a mystery for 110 years despite numerous attempts to locate her wreckage by serious shipwreck enthusiasts from around the Great Lakes for at least six decades.

Based on Farnquist's own research, combined with information garnered from individuals who have invested considerable time searching for the *Russia*, a preliminary search grid was established. "We eliminated a lot of bottom land previously searched by others before focusing in on one prioritized 32-square- mile [52-sq-km] area of Lake Huron off Detour, Michigan."

This latest, carefully planned, search effort by Tom, Ken, and Jerry took them to an area of Lake Huron just outside the 1,440-square-mile [2,323-sq-km] Thunder Bay National Marine Sanctuary. On the 2nd day of search operations, acoustic sonar returns revealed a shipwreck target that seemingly answered the question of where the *Russia* had been hiding for the past 110 years.

Confirmation that this was indeed the *Russia* came during the first, live, video feed from Jerry Eliason's drop camera and lighting system lowered to a depth of 220 feet [67 m]. Appearing out of the darkness came the dim outline of a shape familiar to most experienced wreck divers. Jerry's high definition video revealed a remarkably well-preserved shipwreck with wood-stock anchors secured to the bow, cargo hatch openings, and intact, after cabins, with a standing mizzen mast all matching historic photographs of the *Russia*. "Needless to say, there was great jubilation following confirmation that we had discovered the final resting place of the *Russia*."



Digital sonar image of the *Russia* reveals structural detail and an extensive debris field scattered off her starboard quarter.
Image courtesy: Thunder Bay NOAA National Marine Sanctuary

The *Russia* was discovered on the afternoon of July 23, 2019, lying 1,200 feet [364 m] from a previously discovered shipwreck, the three-masted schooner, *Celtic,* lost to a storm on November 29, 1902, claiming the lives of all eight crewmen. GPS numbers for the *Celtic* location were shared with Farnquist by Paul Ehorn from Waukegan, Illinois, who years earlier had discovered the *Celtic* while conducting his own search efforts to locate the *Russia.* Paul stated that "he had been searching for the *Russia* for the past twenty summers."

While no stranger to deep diving, Farnquist solicited the help of renowned technical divers John Janzen of

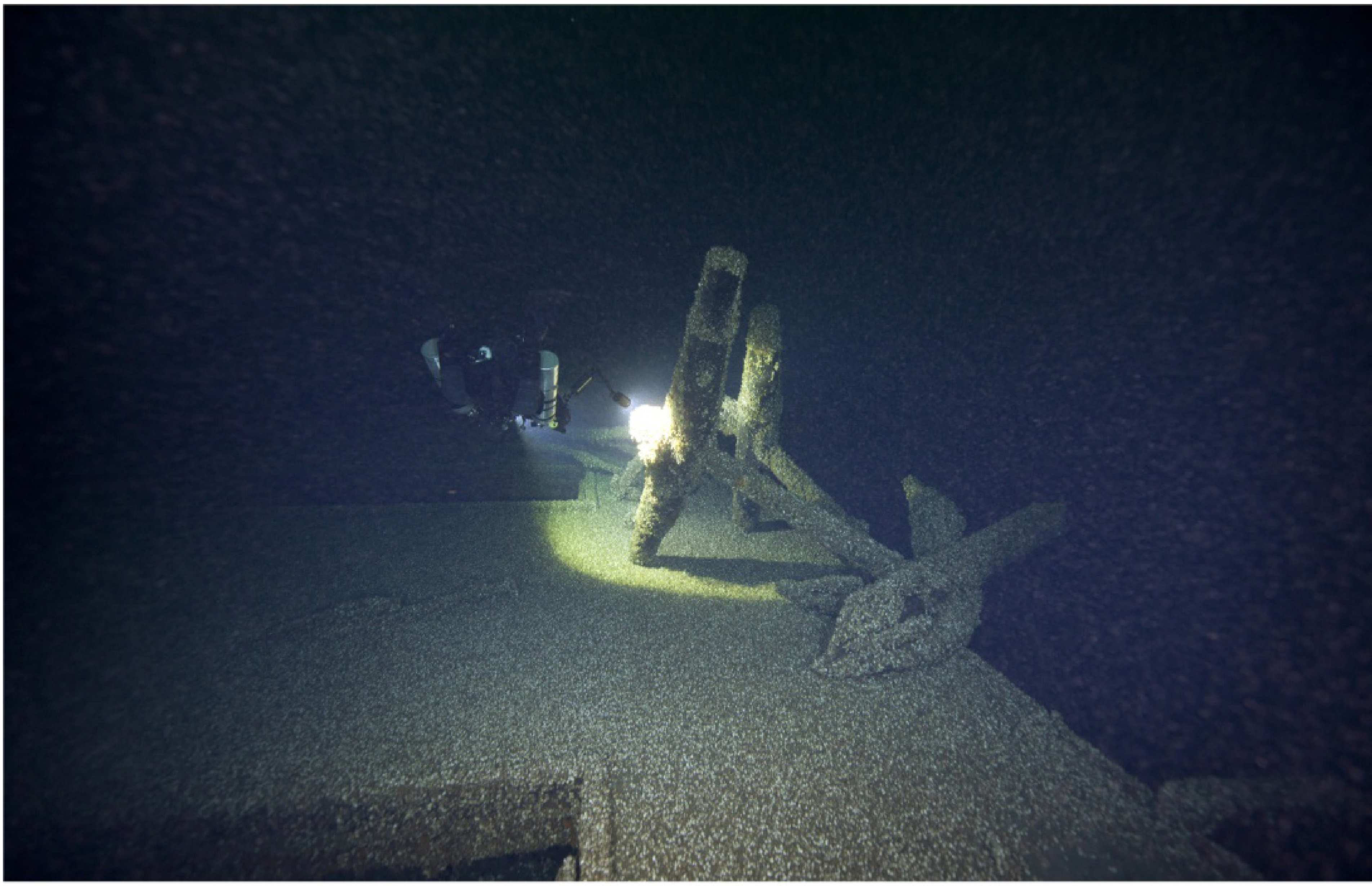
Madison, Wisconsin, John Scoles of Minneapolis, Minnesota, and Captain Ken Merryman and son Andrew to begin video documentation of the newly discovered *Russia* site. Because of the depth, the entire dive team donned rebreathers charged with special gas mixtures to lessen the effects of nitrogen narcosis associated with breathing compressed air at depths beyond 130 feet. Scoles, Janzen, and the Merryman father and son team eagerly accepted the challenge.

Combined, the team logged five dives on the *Russia.* These tantalizing first explorations posed many questions about this intriguing wreck and what lay hidden in the intact after cabins, boiler house, galley, and engine room areas. Video recordings revealed literally dozens of unopened wooden crates stowed below deck.

Archaeologists Phil Hartmeyer and Stephanie Gandulla with the Thunder Bay National Marine Sanctuary, Alpena, MI, and Michigan DNR Archaeologist Wayne Lusardi aboard the RV *Storm* conducted post-discovery sonar imaging of the *Russia* site. The Michigan State Police Dive Team headed by Randy Parrols was also invited to conduct Remotely Operated Vehicle (ROV) video survey work as a way of collecting preliminary structural conditions and artifact inventory data for future underwater cultural resource management of the site.

"This is going to be a very popular dive site for technical divers once the location is released to the public," Farnquist predicted. "The *Russia* sits on an even keel with many areas of the wreck accessible for divers with advanced or technical diving skills."

Plans to return to the *Russia* next summer are being discussed to acquire additional information about the cargo



Above: Tech diver John Scoles illuminates two large wood-stock anchors secured by their chains to the starboard area of the Russia. Depth 210 feet. Photo courtesy: Underwater videographer John Janzen

> "Combined, the team logged five dives on the *Russia.* These tantalizing first explorations posed many questions about this intriguing wreck and what lay hidden in the intact after cabins, boiler house, galley, and engine room areas.

and the many artifacts littered throughout the vast debris field surrounding the *Russia*. Of special interest are the 1872 compound steeple engines still solidly held in place deep within the cluttered engine room area.

ABOUT THE AUTHORS: Tom Farnquist founded the Great Lakes Shipwreck Historical Society in 1978. A deep diver and Great Lakes shipwreck hunter, he has led numerous documentary expeditions to shipwrecks of Lake Superior, most notably to the *Edmund Fitzgerald* in 1995 to recover the ship's bell at the request of family members of her lost crew of 29. His numerous honors and achievements include two Michigan Emmy Awards.

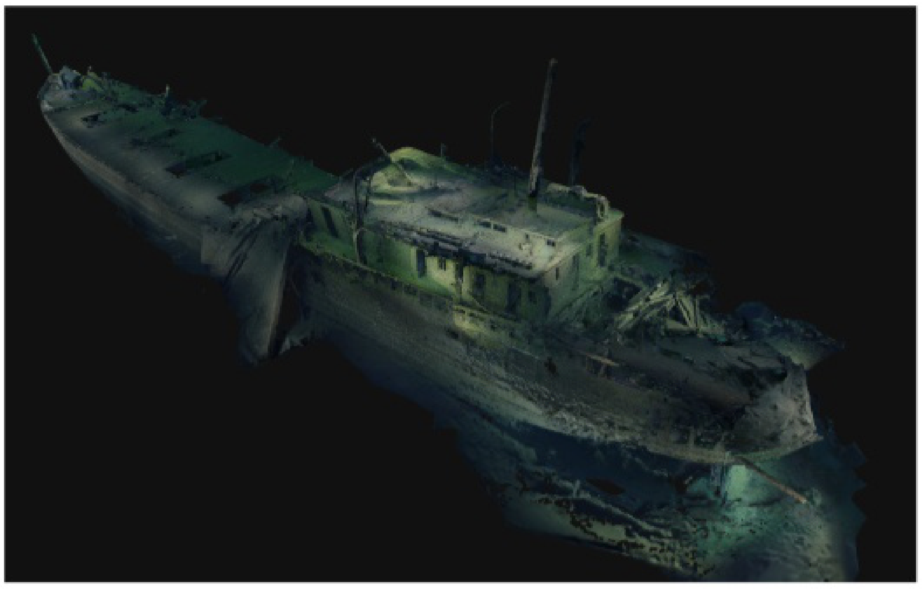
John Janzen is a rebreather instructor, writer, and widely published underwater photographer/videographer who has been diving the Great Lakes for 30 years, with a special interest in the deepest wrecks. He wrote the factory service manual for the Inspiration rebreather.

Jerry Eliason's first dive in frigid Lake Superior was in 1968 at age 15. From 1976 to 1989, he logged 700 wreck dives. He has been part of 19 successful shipwreck hunts, most often providing advanced video imaging that he turns into stunning 3-D mosaics.

Counter-Clockwise: Tech diver John Scoles swims past *Russia's* port quarter illuminating after-cabin doors, windows, and cargo gangway side hatch openings.
Photo courtesy: Underwater videographer John Janzen

Tech diver John Scoles illuminates bow of *Russia* at depth of 220 feet.
Photo courtesy: Underwater videographer John Janzen

This panoramic view shows the entire port side of the wreck as it appears today at a depth of 220 feet off Detour, Michigan.
Mosaic image courtesy: Jerry Eliason, Cloquet, Minnesota



Because of the age of the ship, the engine is bigger than normal. With good rust color, it makes for a great photo op. – Ship: *Emmy Hasse*

Oland is an island on the Swedish east coast in the Baltic Sea. The island is 150 km long so there is a lot to see. If there are bad weather conditions on one end, you can always drive to the other end so you can make the most of your stay.

Accommodations are also easy to find and the island has many small, local harbors. There are wrecks also all around the island.

The great thing about the Baltic Sea is that it is brackish, poor in oxygen, and has few species harmful to shipwrecks, including shipworms. That is why wooden shipwrecks are preserved much better here compared to other oceans. Wooden ships dating from the 15th century can be found here.

On our first diving day, we used up some time getting the key for the boat ramp. Most of the harbors are small and privately owned and are without a harbor master. The harbors are also not well maintained which we would discover later. Despite very high summer temperatures, everything went well with getting out and, after a quick dip in the water for cooling and afterwards good speed on the RIB, the temperature was doable.

The first wreck, *Nelly,* is an old steamer from 1908 lying at a depth of 65 meters. I was on the second team, so while the others were enjoying themselves on the wreck, we managed to get the parasol up so the sun would not burn us.

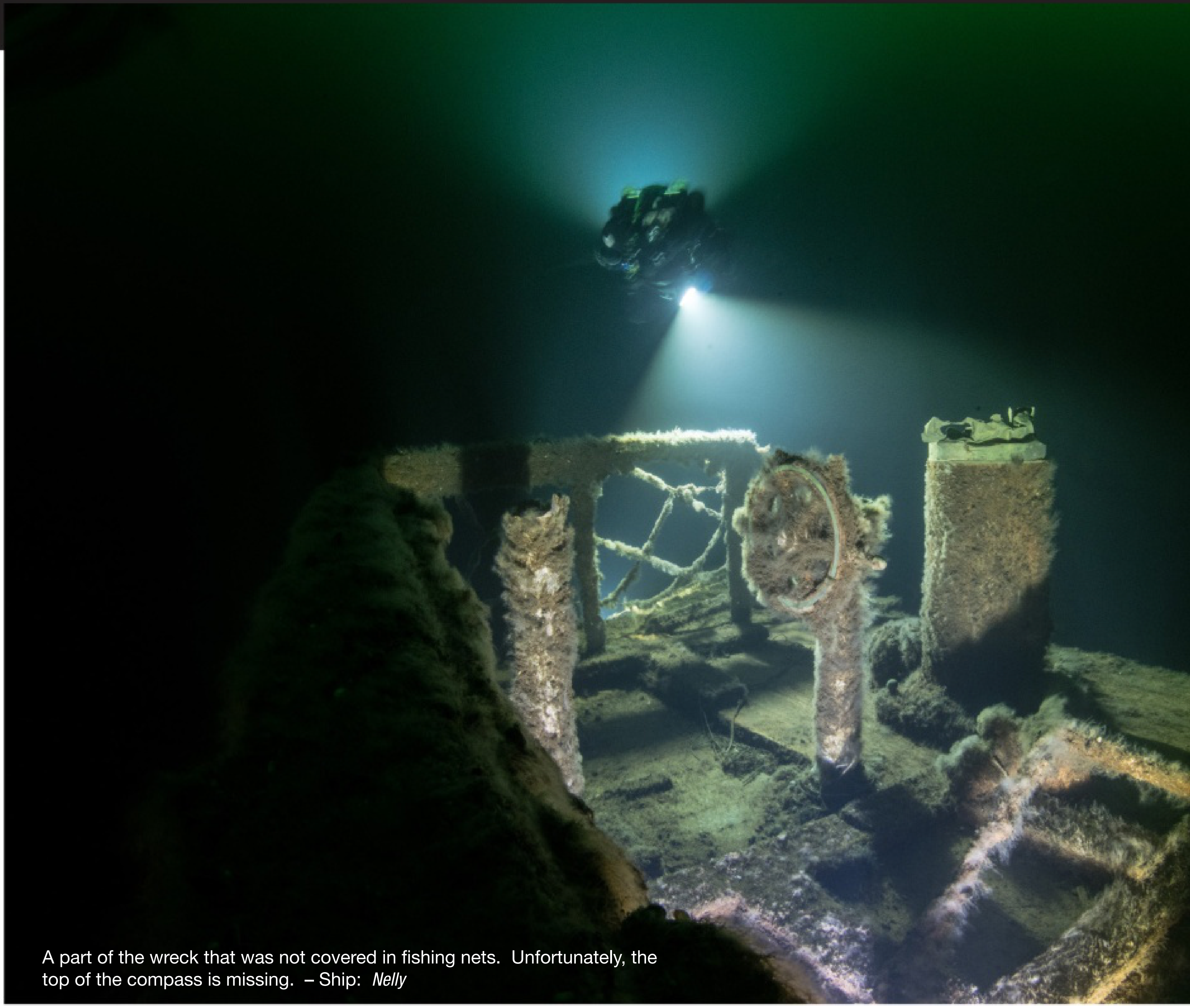
Finally, it was our turn. It was very comforting to get down into the cold, 6-degree water on the bottom and even better when we saw the wreck.

The structure was almost intact, even though everything was wrapped in netting as if it were a Christmas tree. It looked magnificent with the steering wheel as the star on top with wooden handrails around the edge and with bridge wings out to both sides. Older ships are just great in how they were built, and when it is mostly wood, it doesn't get any better.

Unfortunately, there have been previous divers who have taken some items from the wreck. On top of the bridge, the compass and telegraph are gone, but the stand was still

Oland

Text and Photographs by René B. Andersen



A part of the wreck that was not covered in fishing nets. Unfortunately, the top of the compass is missing. – Ship: *Nelly*

there with the smaller steering wheel. But most disappointing was that the large steering wheel was gone along with the signal flags.

I remember seeing photos of the wreck on the web and it's really a shame that people can't keep their fingers away.

Despite the missing items, the wreckage was still cool to see and we got two long dives on it.

The next day, we went out to a somewhat older lady, *Emmy Hasse*, which was built in 1880 and went down in 1887.

But, finding the harbor was a little more difficult. To begin with, half the harbor was filled with one-meter-thick sludge, so we had to drive to the next place, which was not optimal either, as it was intended for smaller boats, but it worked. We had to sail a little longer, but the weather was good, so we could sail out without drysuits on, which was a pleasure.

The wreck lay on the starboard side at a depth of 56 meters, and, with a length of 80 meters, there was plenty to look at. The shotline was tied on near the bridge, which unfortunately has collapsed and was on the bottom. We swam past the engine room which was huge in size and I was quickly taken by the engine. And as all the hatches in the skylight were open, you could see straight into the engine. The structure was already in poor condition and It will take just a few years before it falls to the bottom.

But given the age of the ship, it is doing quite well. I moved farther down towards the stern and soon two large drop caps and a spiral staircase and skylight emerged, which was beautifully carved and still in great condition here 132 years after it went down.

Unfortunately, the emergency steering wheel was gone but everything went fine because it gave us time to swim around the stern where you could still read the ship's name. And, later, looking at the pictures, I could decipher that there was a logo or something similar above the name.

The large, curved roof, together with the screw and rudder, looked great, especially when light was thrown on it.

This day between the dives, we got some entertainment from the Swedish Air Force in the best "Top Gun" style as they hovered above us and conducted air fight exercises for 20 minutes. It was very entertaining for us while waiting to dive a technology that was 132 years older, from another era.

The next dive was a bit of a gamble. We had good weather conditions so we took advantage of it and sailed longer than the other days to try an unknown site at 80 meters (Unknown wreck 1). When we arrived, it took some time to get a hit on the side scanner, but finally it happened and it looked very promising. We took plenty of time to throw the shotline, and the first team went in while others enjoyed the weather under the parasol. After a while, a two-engine propeller aircraft flew over us at low altitude, and my first thought was that it was on the way to Gotland Island and would save some fuel by not flying very high, but then it turned and started to circle above us, so that it could get a good view of us.

I counted nine times that it circled before the first team came up and told me it was a virgin wreck we had hit.

I quickly got my gear on as I looked toward the horizon to look for the Coast Guard, who might have been on their way to chase us away.

The shotline was tied up at the wheelhouse, and as I swam by, I could see all the loose items that were in there and I had to stop just to look at what was in there. Time was limited so I focused back to the camera. The bridge was intact with handrails around the edge, and on top were the steering wheel and the compass housing, although the compass was missing. On the deck below was the telegraph lying on the deck. Along with the bridge's windows and its small bars, this was truly an incredible sight and a dream opportunity for a photographer.

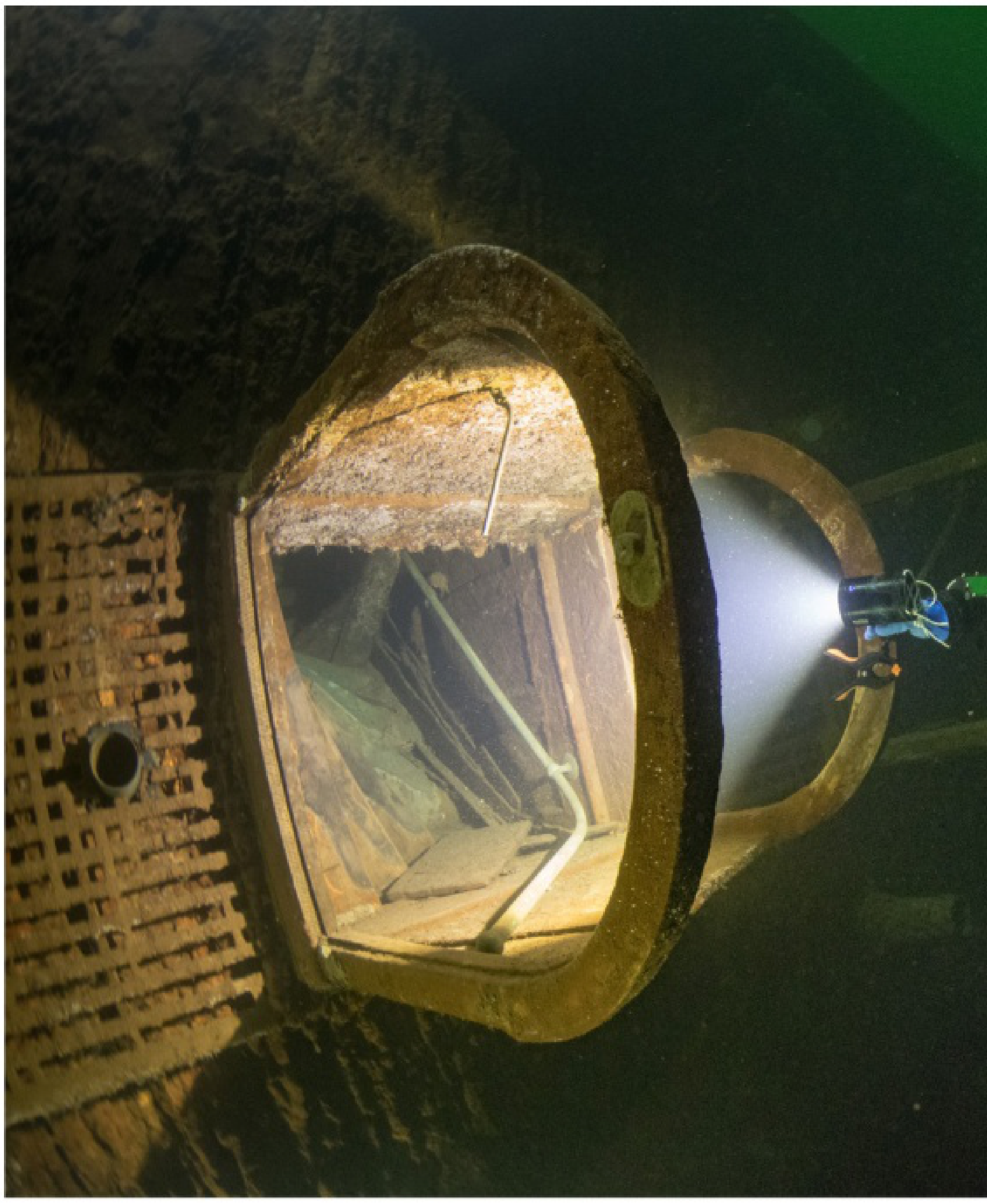
When we ascended, the others told us that the Coast Guard had come by. They were not in an RIB but in a larger vessel, and they had been looking at us for 15 minutes before waving and sailing away.

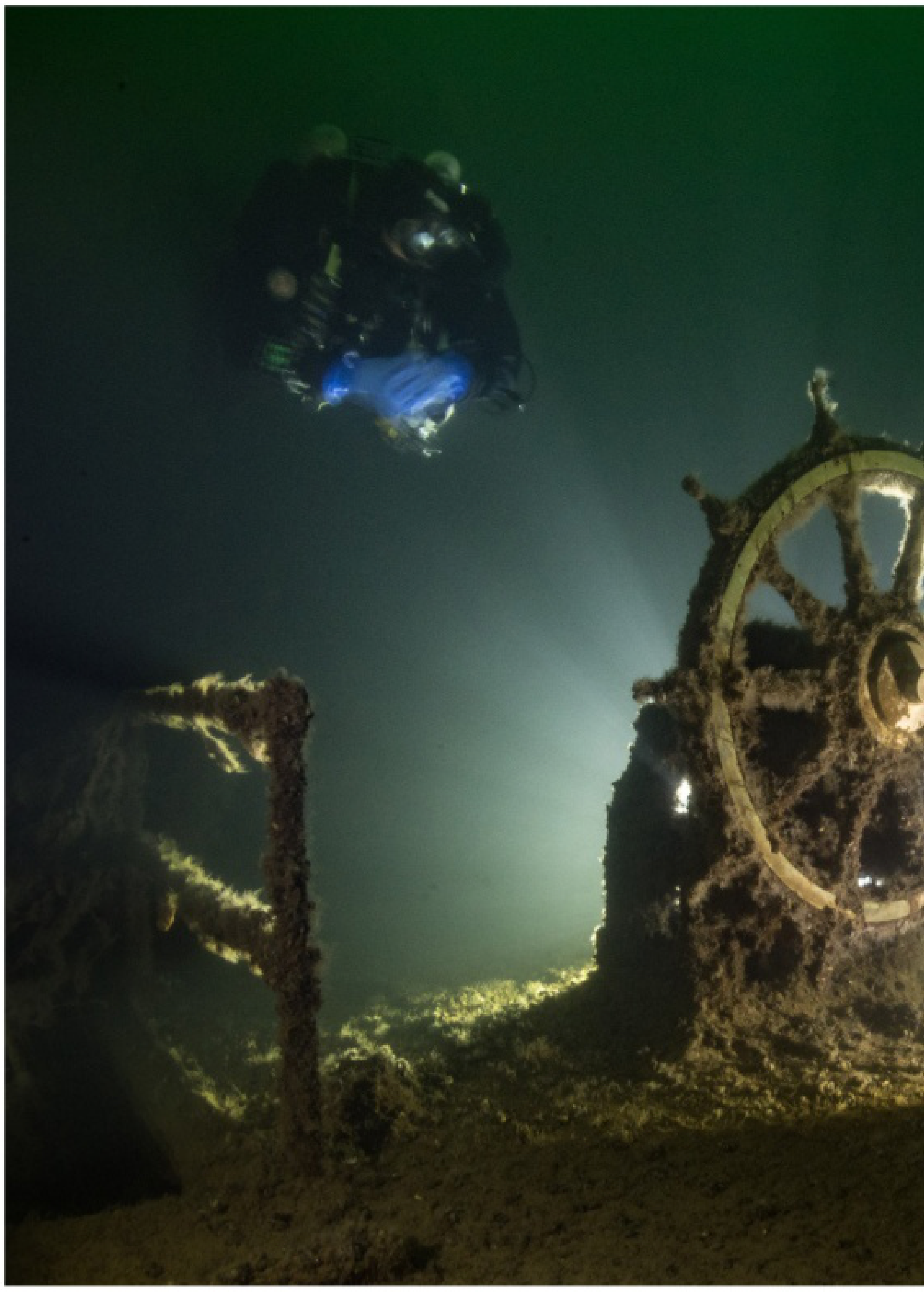
We did another dive on this unidentified wreck where we went into the stern and it revealed probably the most beautiful thing I've seen on a wreck. The first thing we saw was a down jacket, then a skylight, and then the steering wheel. There were a couple of hatches missing, but otherwise it was completely intact. On the port side was the top of the compass housing. Towards the stern there was a cane anchor; that says something about the age of ships, and on the starboard side there was a lantern.

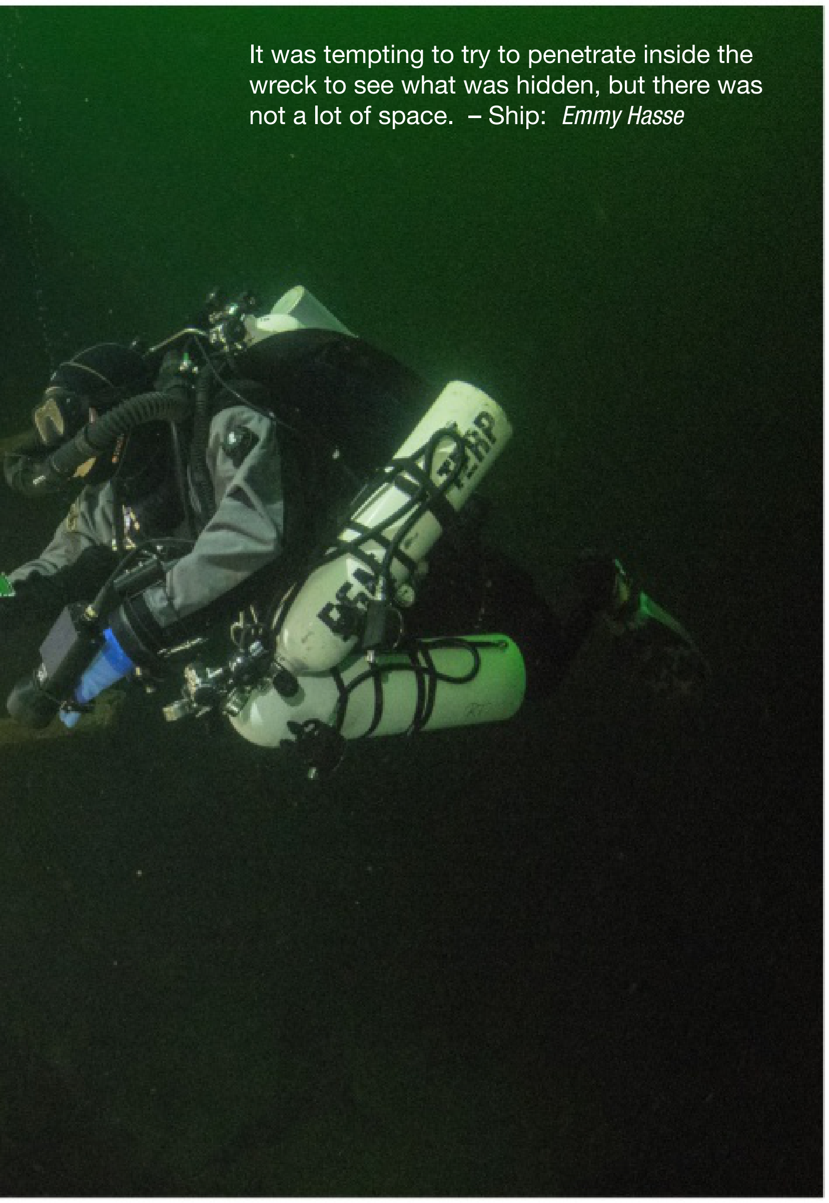
Unfortunately, the time went too fast and we had a longer trip ahead of us and as we arrived in port, the Coast Guard was waiting for us. They were very interested in where and what we had dove. But we did not get a reprimand, and before we left the harbor, I could see that they also had an RIB in the harbor. Maybe they tried to stop us before we reached the port but I do not know.

This became the main wreck of the trip and since the next day also had good weather, everyone agreed that we were going back.

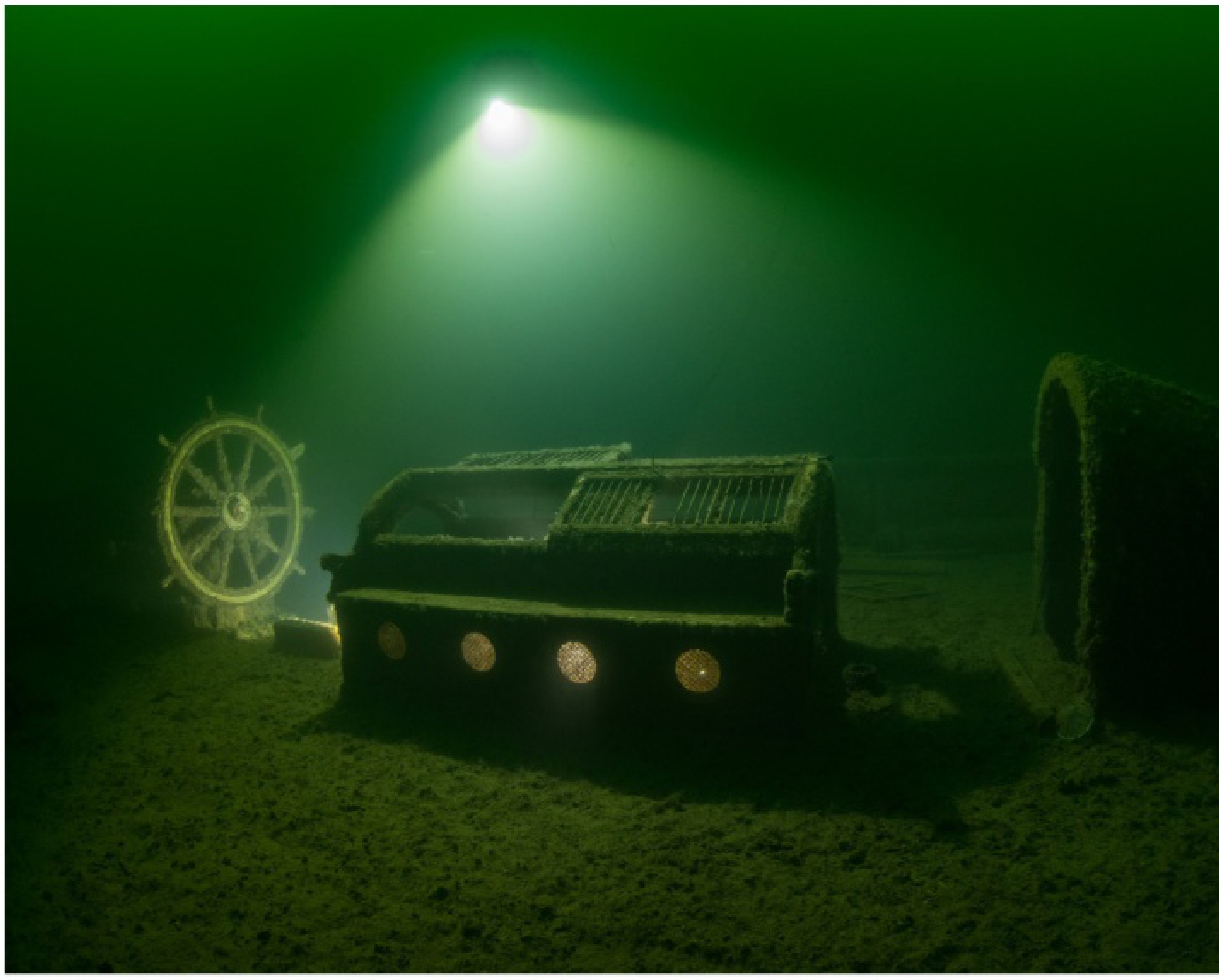
I also had a good idea of what pictures I wanted. On the first dive, four of us went down with the agreement that I got the bridge to myself. It was not possible to see in the



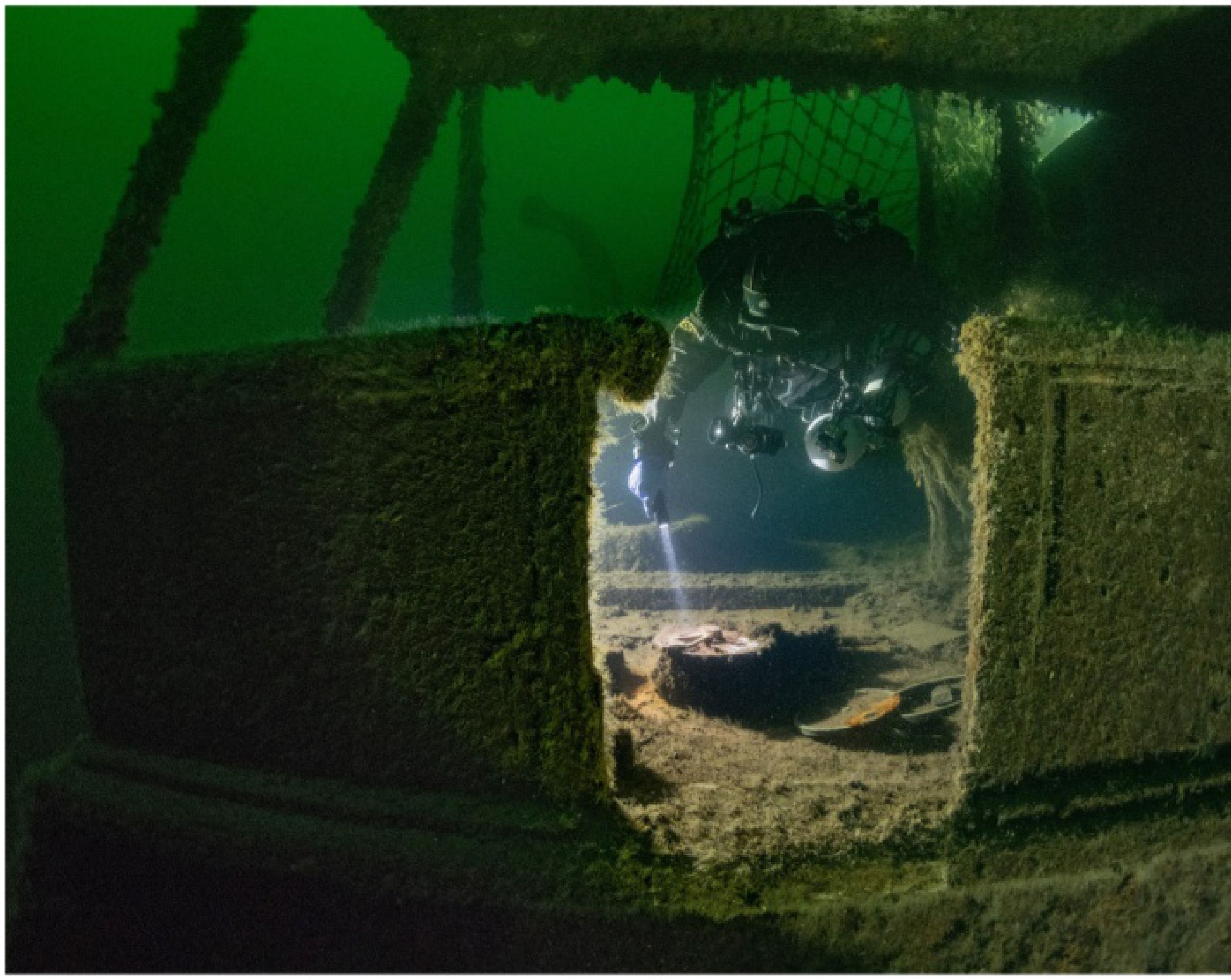




It was tempting to try to penetrate inside the wreck to see what was hidden, but there was not a lot of space. – Ship: *Emmy Hasse*



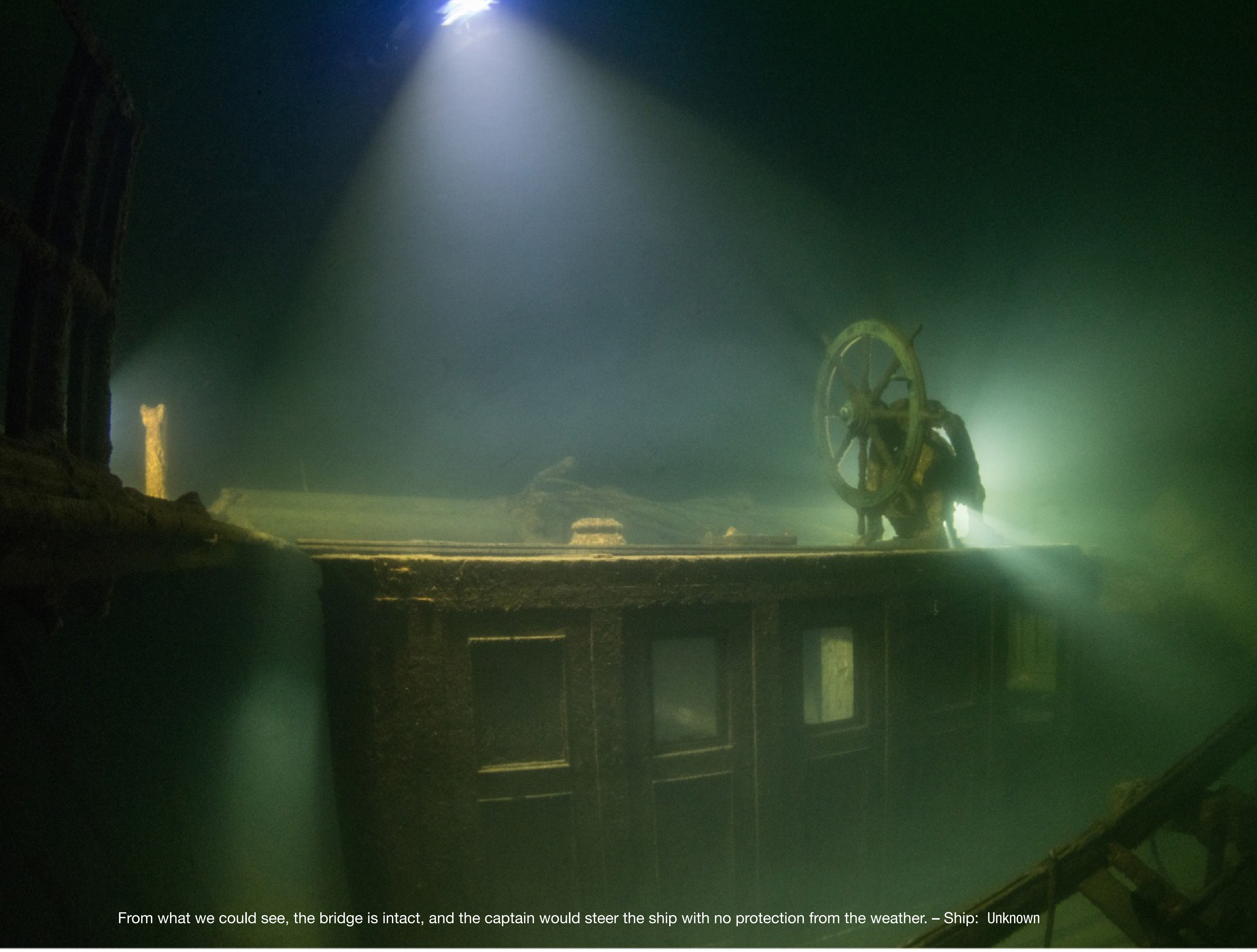
On top of the bridge, the wheel displays some good details. – Ship: Unknown



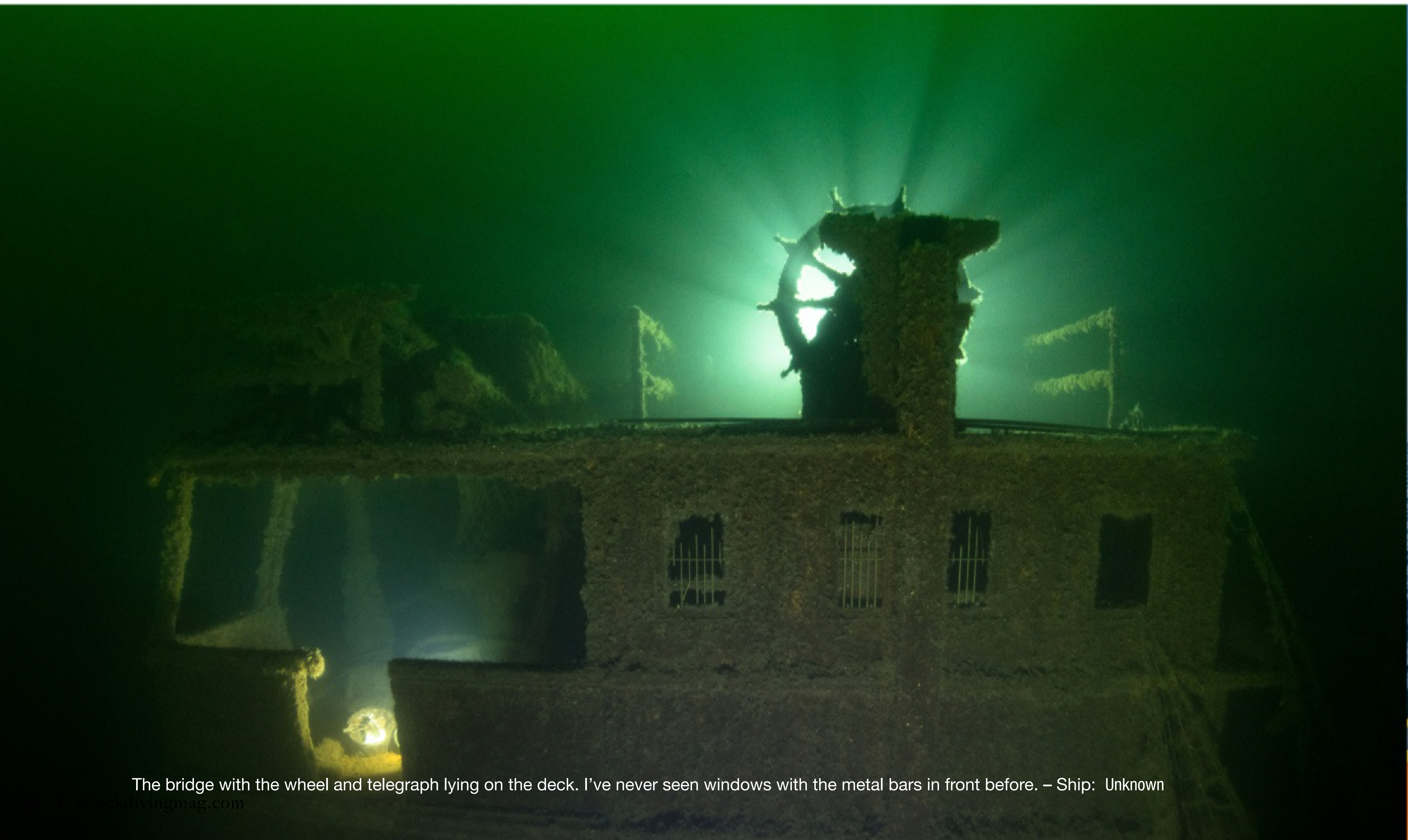
Top: The stern - the only thing missing is the compass housing. We only found the glass top of it. Really an amazing sight. – Ship: Unknown

Center: The telegraph, a bit broken, but still in decent condition. – Ship: Unknown

> "The first thing we saw was a down jacket, then a skylight, and then the steering wheel.



From what we could see, the bridge is intact, and the captain would steer the ship with no protection from the weather. – Ship: Unknown



The bridge with the wheel and telegraph lying on the deck. I’ve never seen windows with the metal bars in front before. – Ship: Unknown

ABOUT THE AUTHOR:
René B. Andersen shares with us his images from the temperate waters of the Baltic Sea. René began diving 17 years ago and took his first camera underwater four years later. Diving to depths of 300 feet, René has had the opportunity to record images few people will ever see firsthand. Through a combined passion for technical diving, exploration, and underwater photography, René's images transport viewers to another realm—thick with history. Some might call René a frontier photographer and diver, as he investigates corners of the sea few dare to go—and does so with highly technical equipment. The images he brings back from the depths are artifacts in and of themselves.

pictures, but there was some netting on the wreck, which was filled with dead seals. I had just set everything up and was ready to shoot. There were several large chunks of white, dead, seal meat drifting in front of the camera. Maybe we were way too far down, but I actually thought that those on the surface could hear me, so I shouted. Several minutes of work was wasted during this time, but I never found out who was rolling in the dead seal like a dog.

The second dive was spent in the stern. I just had a couple of shots I was missing and before I needed to go up, I penetrated down the stairs. Because there was not much room, I had to go down backwards in case I got stuck. Then it would be easier to get free. On the way down, I could feel my fins sticking into mud. As I turned around, I could see a stove, but otherwise, the room was half-filled with mud. There were two rooms that I swam in and looked in. It was the second room that was the most exciting. There were stacked plates on the table and, on the side, there was a wine rack with several bottles still in it. Some of them even had corks in them.

After a few shots, it was time to go up. The visibility was not too bad, so finding my way out went smoothly.

On the last day, we went to an older steamship from 1888 (Unknown wreck 2), which was lying at a depth of 75 meters. This wreck did not disappoint either, even though it was bit more ruined. What made the wreck a little special was that there was a fog that moved around over the wreck all the time, which had a bold effect on the images.

The most exciting thing was the bridge although it was not completely intact. The steering wheel was still standing and there were handrails along the edge of the bridge. With the right angle from the side, I could get it all in the picture with the davit hanging over the edge where they had put the lifeboat in the water before the sinking.

I spent a lot of time around the bridge getting the picture right, so I did just a quick trip around the rest of the wreck, which I regretted afterwards as there were many beautiful photo opportunities. I got some pictures but I could have done a better job.

The bow with a davit with a pulley block for the cane anchor and in the right orange rust color was a sight that could become perfect with more time. The cargo compartment was also exciting. The stern end was partly damaged and it would have been interesting to see more but that would be for next time.

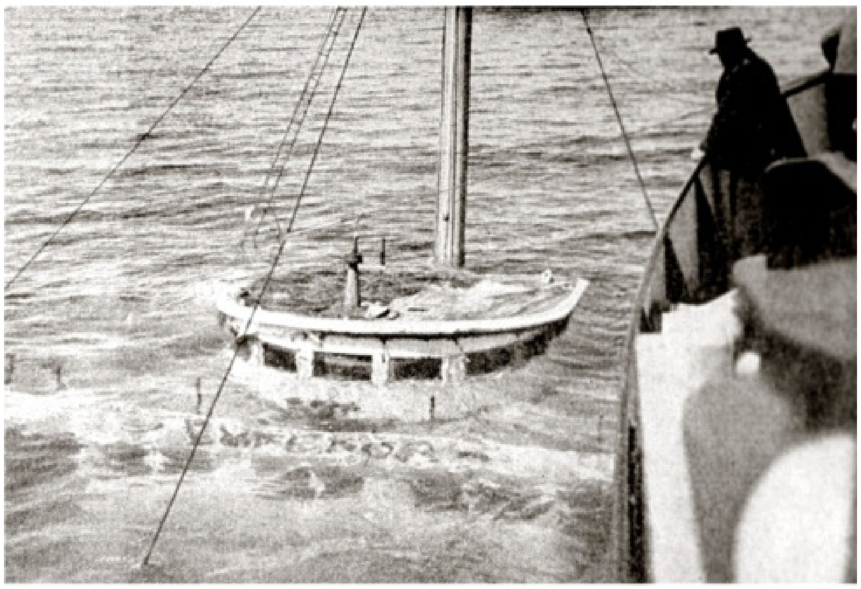
This was definitely a trip where the Baltic Sea turned out at its best with good weather and wrecks. However, we have also experienced several occasions that the trip had to be cancelled or that we were blown out some of the days; The Baltic Sea is a hard lady so there is no guarantee for good weather.

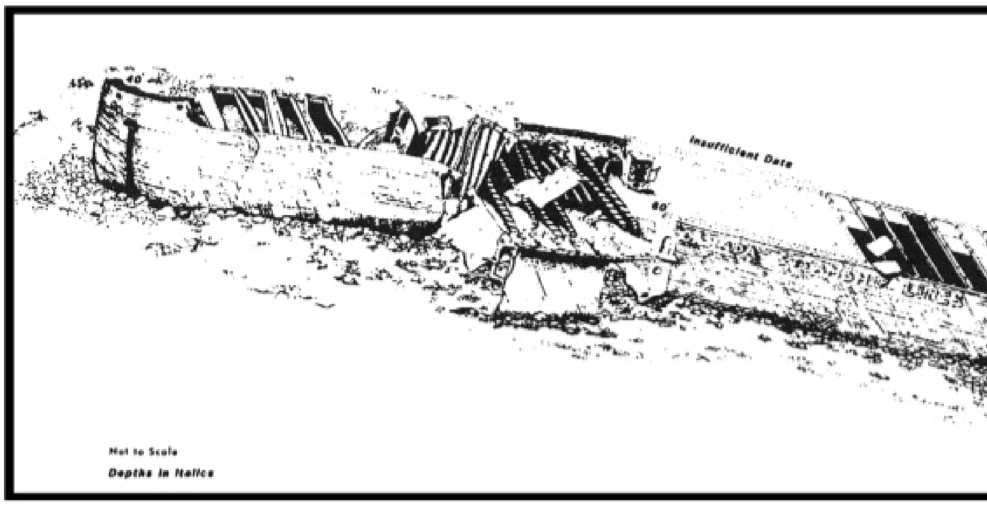
◀ Summer diving at its best, but very warm, so the parasol was a big help to cope with the heat.

The *Emperor* of Isle Royale

Only one commercial ship was tragically lost at Lake Superior's dangerous Isle Royale after that huge island became a National Park

Text by ***Cris Kohl***
Underwater photographs by ***Joyce Hayward***



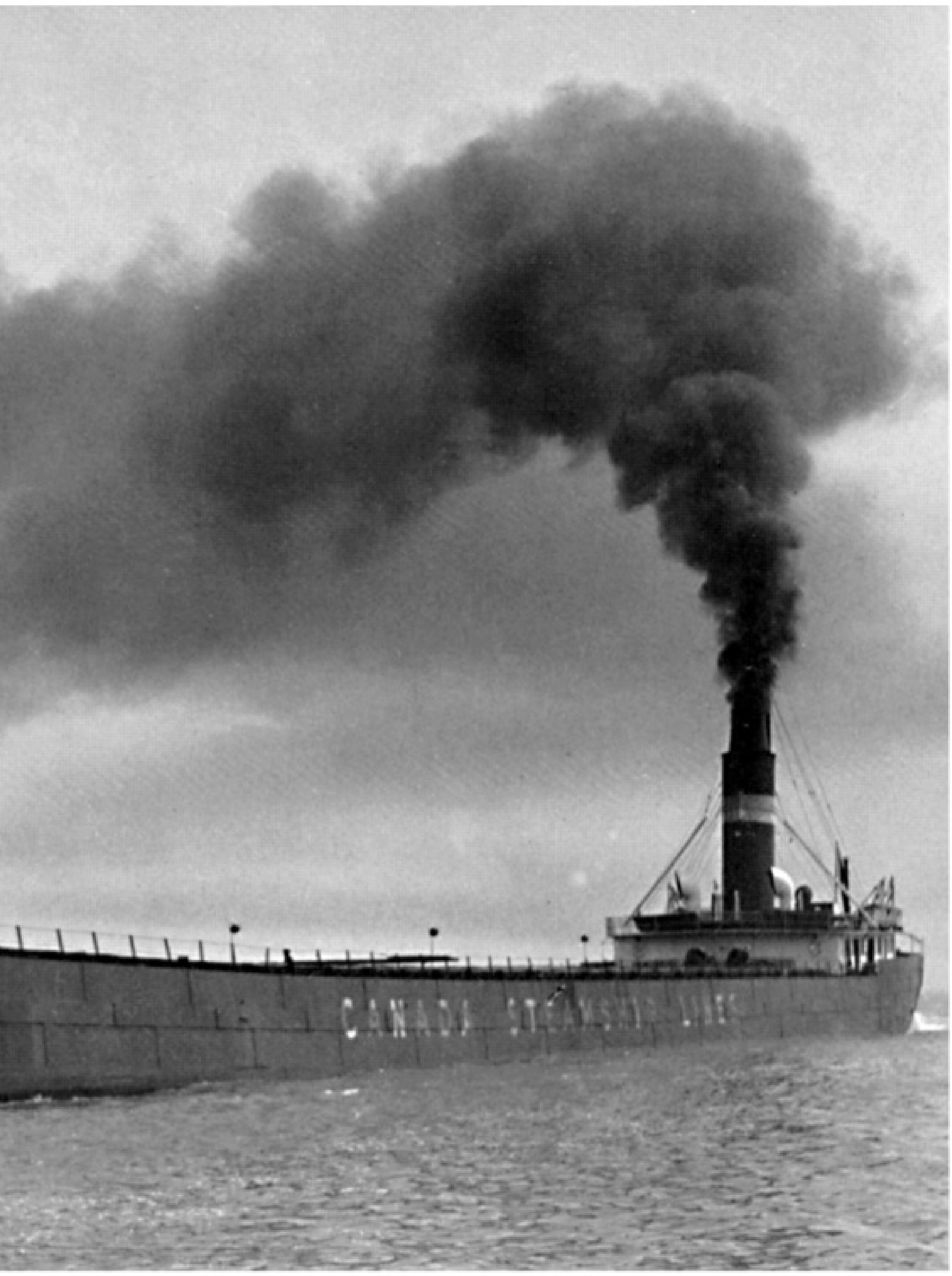


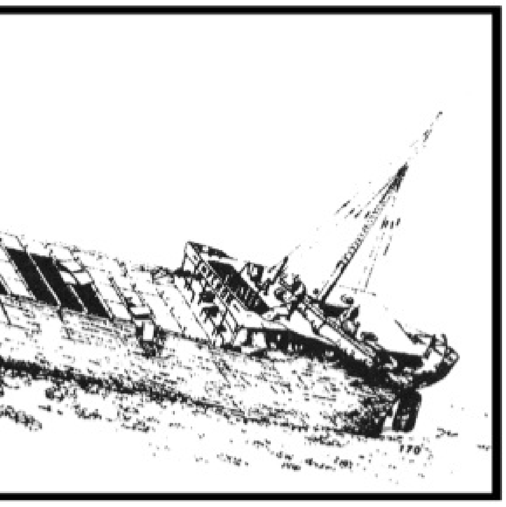
Left - Top to Bottom: For nearly four decades, the *Emperor* served as a powerful workhorse on the Great Lakes. (Kohl-Forsberg Archives)

The U. S. Coast Guard cutter, *Kimball*, placing channel buoys nearby, quickly came to the rescue of the 21 survivors of the *Emperor's* sinking. (Kohl-Forsberg Archives)

Top Right: Although originally constructed for a private businessman, the steamer *Emperor* soon became part of the Canada Steamship Lines fleet. (Kohl-Forsberg Archives)

Lake Superior is the largest, the deepest, the coldest, and the wildest of the five enormous Great Lakes. The largest island in Lake Superior, named by early French explorers Isle Royale, or royal island, due to its vast size, retains the wilderness aura that Native Americans and those first European explorers experienced. This island, 45 miles (72.5 kilometres) long and nine miles (14.5 kilometres) wide, features one main island, with more than 400 smaller islands or islets clustered around the main one. Although only 15 miles (24 kilometres) from Canada, and 18 miles (29 kilometres) from the state of Minnesota, Isle Royale belongs to Michigan (which is 50 miles, or 80 kilometres, to the south). This rocky, heavily forested island in northwestern Lake Superior, known for its wolves, moose, and many miles of hiking trails, has a





◀ The wreck of the *Emperor* lies with its bow in 40 feet [12 metres] of water, while its stern rests much deeper in 170 feet [51 metres]. (U. S. National Park Service, Submerged Cultural Resources Unit. Drawing by Jerry Livingston)

▶ Several vessels, such as the *Coastal Queen*, appeared at the site of the *Emperor's* sinking in hopes of recovering some of the twelve bodies. (Kohl-Forsberg Archives)

year-round human population of zero.

Isle Royale has ten major shipwrecks. Half of them were U.S. ships, such as the steamer *America* (see WDM #23 and #24) and the excursion vessel *George M. Cox* (see WDM #34), but five were Canadian ships – because Isle Royale lies in a direct line between the canals at Sault Ste. Marie at the entrance to the lake, and the largest harbor on Lake Superior, Thunder Bay, which happens to be in Canada.

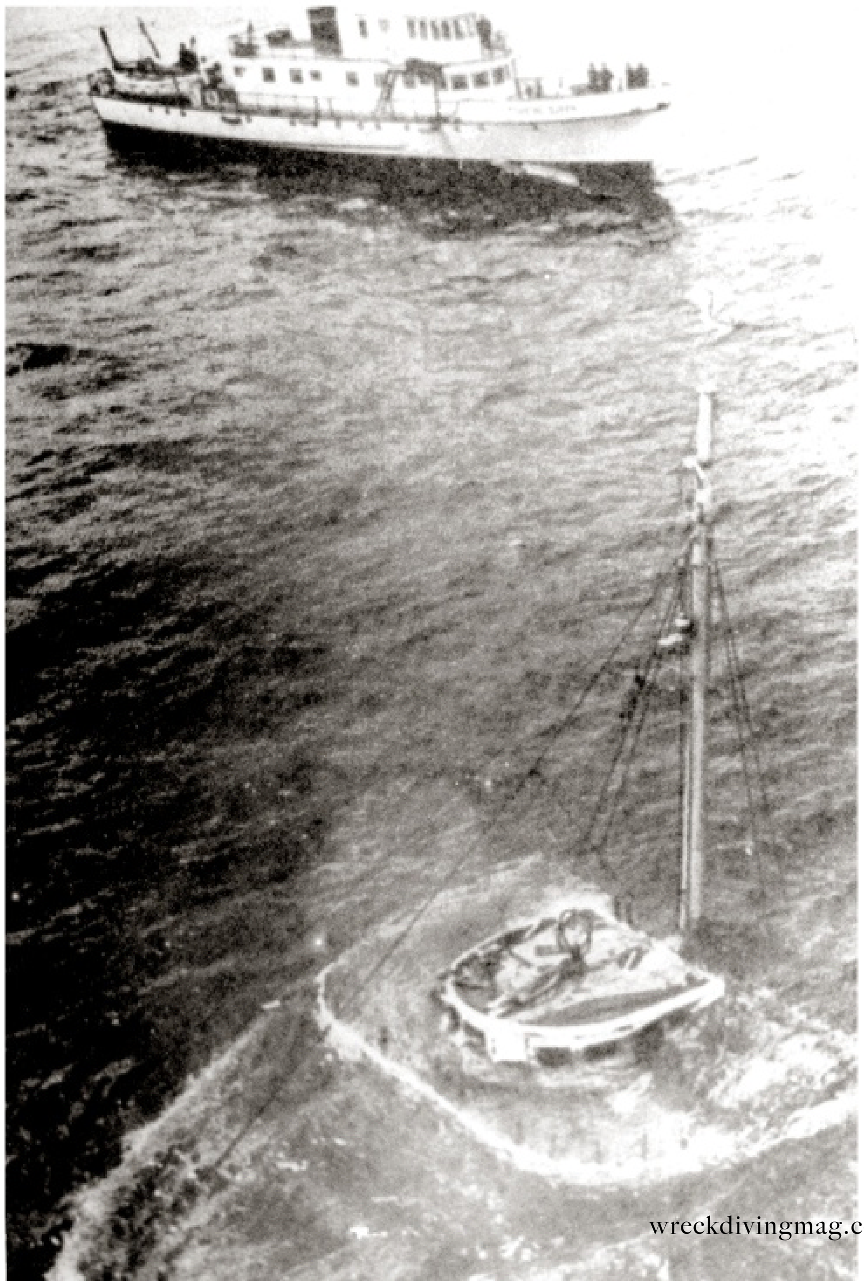
This remote island became a U.S. national park on April 1, 1940, and this is the story of the only commercial vessel wrecked at Isle Royale after it attained that park status.

This major disaster took place off the northeastern end of Isle Royale early in the morning of June 4, 1947, when the 525-foot-[159-metre]-long steel steamer named the *Emperor* struck hard on Canoe Rocks, filled with water, and sank with her bow just awash in the shallows and her stern deep in 170 feet [51.5 metres] of water. Twelve lives were lost in this accident.

The Canadian freighter, *Emperor*, had loaded 10,429 tons of iron ore at Port Arthur (today called Thunder Bay), Ontario, and pulled away slowly from the dock at 10:55 p.m., June 3, 1947, underway towards Ashtabula, Ohio, on Lake Erie. First Mate James Morey, who had spent long hours supervising the ship's loading at Port Arthur, took command of the ship at midnight during her dark zigzagging past various islands, points, and shoals while en route to the open waters of Lake Superior.

However, at about 4:15 a.m., the *Emperor* crashed into the jagged Canoe Rocks at full speed with the force of a locomotive slamming into a wall. The hull cracked, admitting an enormous volume of water and causing the stern to sink in deep water off the pinnacle of the rocks, trapping the men in the engine room.

Captain Eldon Walkinshaw, the 61-year-old skipper from Collingwood, Ontario, and 11 crewmembers (eight men and all three women who were on board) went down with the ship, but, miraculously, the 21 others on board survived. Luckily, the U.S. Coast Guard cutter, *Kimball*, happened to be placing channel buoys around Blake Point, also at the eastern end of Isle Royale. When the *Kimball* received the S.O.S. radio transmission from the *Emperor*, sent out by its captain, the ship raced to the accident scene in 25 minutes, rescuing seven survivors from their precarious position on the tiny Canoe Rocks, which rise a meager three feet (one metre) above the water, plus 14 more from two lifeboats that were so damaged they would not have stayed afloat much longer. The icy waters of Lake Superior in early June would have killed any sailor

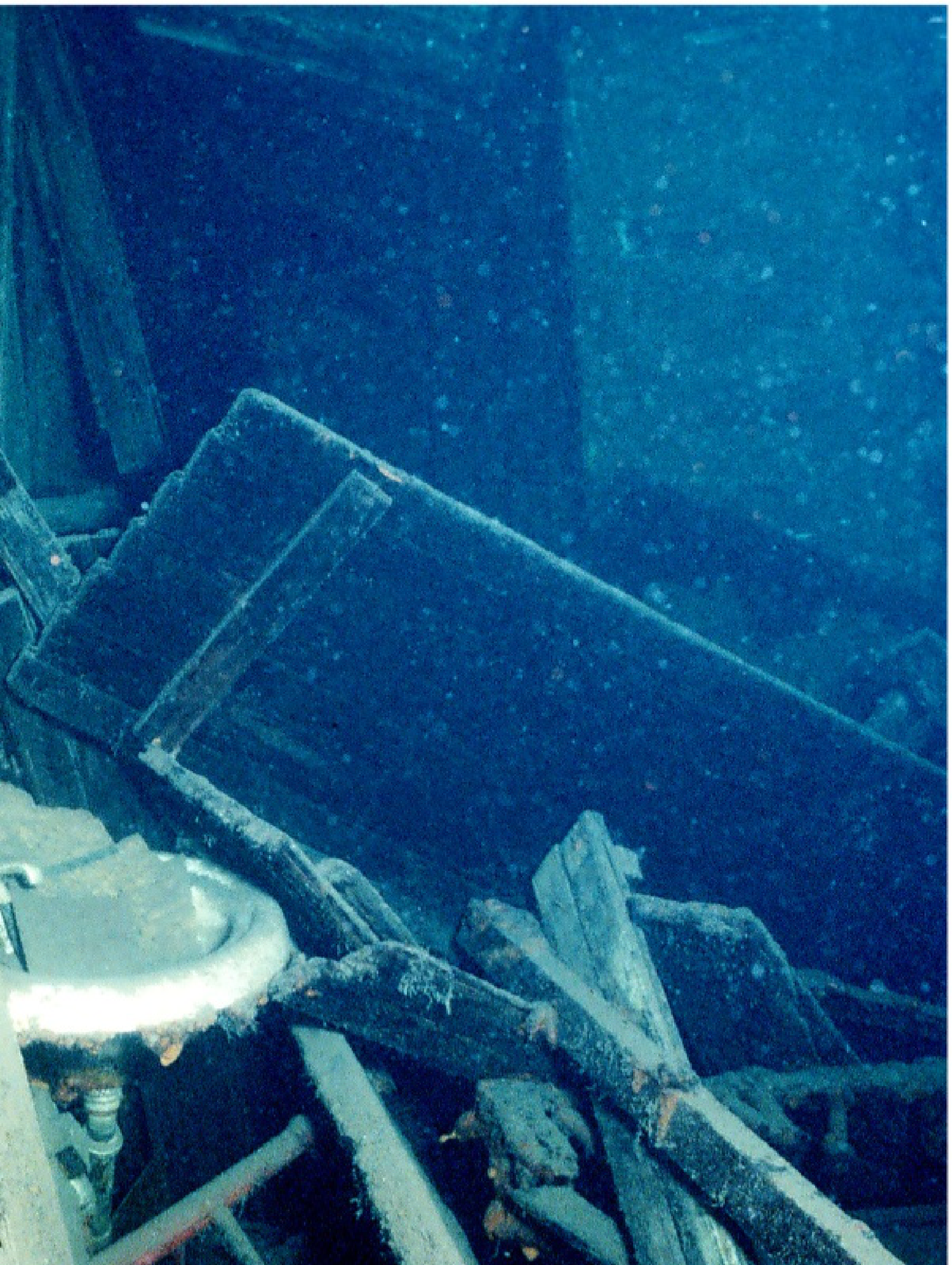


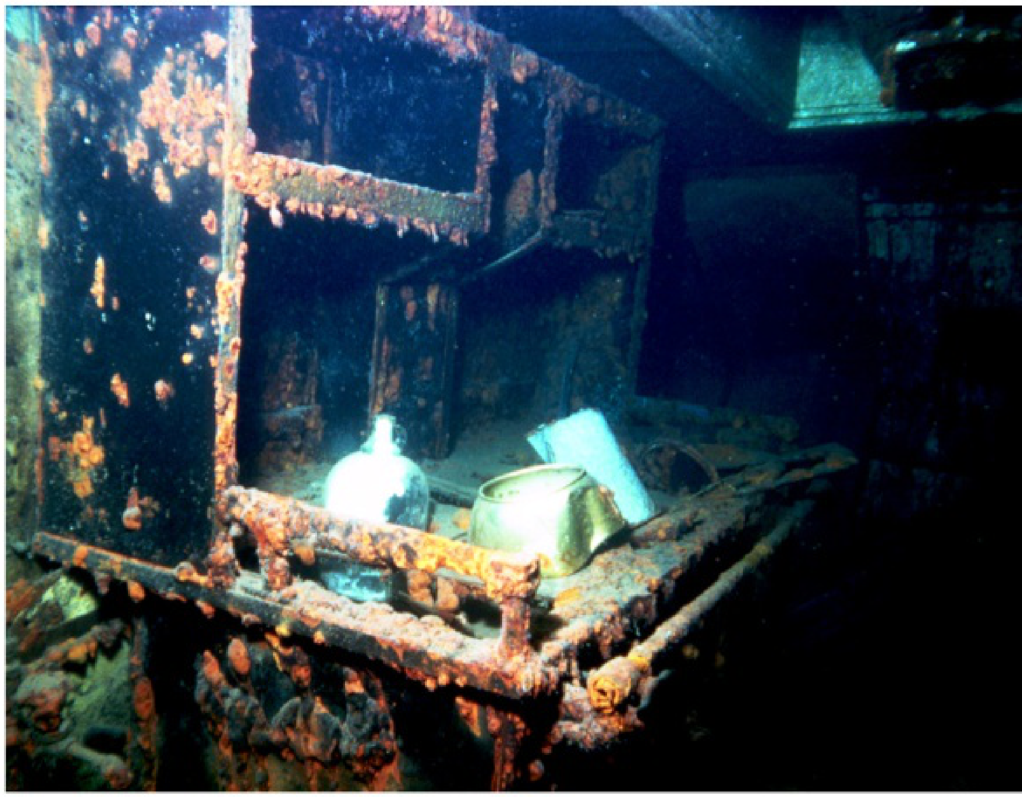
through hypothermia in a short period of time. The plug had come out of one lifeboat, and its ten occupants were in knee deep, freezing water when they were rescued. This first lifeboat had previously conveyed the seven survivors on Canoe Rocks to that location. The second lifeboat was damaged and overturned when it struck the sinking *Emperor*, but the *Kimball* rescued four sailors clinging to its small hull.

A reporter from the *Toronto Evening Telegram* was quick to speak with one of the survivors, subsequently filing this story:

> **Ernest Albrecht, youngest of the 21 survivors, told how he had finished his watch and was getting ready to turn in when the fourth engineer rushed into his cabin and told him the ship was sinking.**
>
> **"I thought he was kidding me," said Albrecht, "so I went to bed thinking that it was just something trivial wrong with the ship. I just got into bed when another coal passer came down in the room and when I saw how scared he looked, I jumped out and broke all speed records for getting dressed.**
>
> **"I grabbed a life jacket and helped lower the two lifeboats on the after deck."**
>
> **When he was on the after deck, Albrecht saw the bow of the *Emperor* slanted into the calm water and gradually settling. He waited until the three women cooks were in the boats and started to descend into the port boat himself.**
>
> **"Before I got into the boat I was standing by the after house. Then the ship gave a lunge and water came gushing over like a waterfall. The port life boat was thrown against the after house bulkhead with several persons in it. I thought my time had come as the boat threatened to pin me to the cabins, but luckily I was just bruised and cut a bit and had the wind squeezed out of me.**
>
> **"The next thing I knew I was in the water, floating with the jacket. The port lifeboat was overturned and a few feet away. I couldn't swim in that water, it was so cold, so I drifted to the boat and hung on until I saw an American Coast Guard cutter coming."**
>
> **When asked if the water was extremely cold, Albrecht replied, "You're darn tootin'. I saw snow and ice on the island when I was on duty."**
>
> **The youth was full of praise for the treatment given them by the U.S. cutter crew and said that it was "near heaven" when he got into warm blankets and drank hot coffee.**

Subsequent searches by a ship named the *Coastal Queen* and an aircraft found no more survivors; only two bodies, both female, were recovered. Subsequent inclement weather delayed hardhat diver "Doc" Fowler from searching for bodies on the wreck; when he eventually could make three dives on the *Emperor*, he located none of the missing crew.





Left - Top to Bottom: A diver enters one of the cabins in the *Emperor's* stern housing.

Inside one of the *Emperor's* stern cabins, considerable wooden debris from the roof and the walls has collapsed around a porcelain sink.

Top Right: The crew's galley still contains kitchen items, including utensils and a large, steel stove.

Bottom Right: The steel frames of crew bunkbeds are intact in a cabin at the *Emperor's* stern, as are the under-bunk drawers that stored crewmembers' clothing.

> "Subsequent searches by a ship named the *Coastal Queen* and an aircraft found no more survivors; only two bodies, both female, were recovered.

The accident that sank the *Emperor* was difficult to explain. The three people who could possibly have offered some answers, Captain Walkinshaw, First Mate James Morey, and the wheelsman at the helm, John Prokup, had all perished in the disaster. Not one of the 21 survivors had any idea why their ship had veered off course. A Canadian Court of Investigation concluded that Morey was not as alert as he could and should have been, and that there was a strong possibility that he had dozed off and was thus delayed in making one of the required course changes. That error put the *Emperor* too far south, right on course with Canoe Rocks.

The Canadian Court also disapproved of the "system which prevailed which required the First Mate to be in charge of loading the ship during the period when he should have been off duty, and resulted in his becoming overtired, suffering as he was from lack of sleep." Also criticized were insufficient lifeboat drills, as the crewmembers did not seem to be familiar with their stations and duties.

First Mate James Morey had experienced difficulties on the *Emperor* before her final sinking. He actually fell overboard from one of the ship's bridgewings while the vessel cleared Toronto harbor in the spring of 1940, but was quickly rescued without serious injury. In 1946, Morey fractured his arm while on board the *Emperor*. And, finally, he died when the *Emperor* sank in June 1947.

On December 17, 1910, at the time of her launching at Collingwood, Ontario, the steel steamer, *Emperor*, was the largest ship ever constructed in Canada. James Playfair, one of the main Canadian shipping entrepreneurs of the day, himself christened the ship he had ordered built. From Midland, Ontario, Playfair added the *Emperor* to his fleet of ships that included other royal names like *Midland Queen, Midland King, Midland Prince*, and *Empress of Midland*. The *Emperor*'s enormous length and load capacity were complemented by the 2,200-indicated horsepower, triple expansion steam engine, soon earning her the nickname, "The Pride of Canada." The *Emperor* became part of Montreal's Canada Steamship Line fleet in 1913. In the end, the insurance company paid out $632,700 for the loss of the *Emperor*. Only one other ship named the *Emperor* ever existed on the Great Lakes, a small, two-masted, wooden schooner built in 1853 at Port Dover, Canada West, and wrecked at Oswego, New York, on Lake Ontario in November 1870.

The *Emperor* had several accidents during her 36 seasons on the lakes. In October 1911, at the end of her first season, the ship sank in a freak accident in shallow water at one of the locks at Sault Ste. Marie after running onto her anchor and puncturing her hull. On November 24, 1936, in a severe storm on Lake Superior, the *Emperor* lost her rudder and, before being towed into the harbor at Fort William, Ontario, a 21-year-old watchman was washed overboard. In 1937, the ship ran aground in a dense fog in eastern Lake Ontario. The sinking of the *Emperor* at Isle Royale in 1947 was the first loss-of-life maritime accident on Lake Superior since the *Arlington* sank in 1940 with one life lost, and memories of the loss of all 22 hands at Isle Royale when the Canadian steamer, *Kamloops,* sank there in December 1927, were awakened.

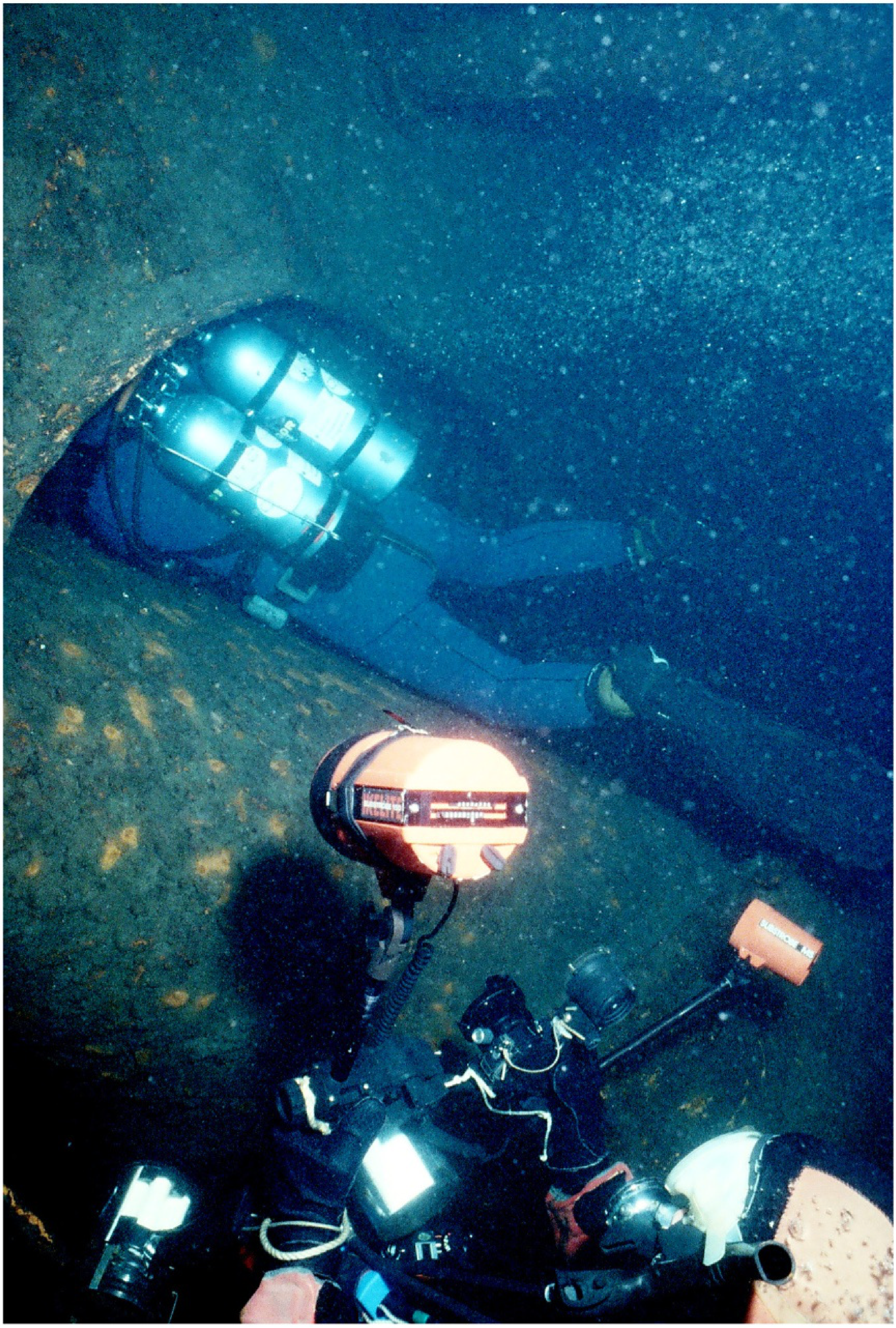
Although the steel *Emperor*'s hull broke, the halves remain attached to each other, forming a long line of massive, cracked, chipped, breached, and fractured steel, dropping from a depth of about 40 feet (12 metres) at the bow to 170 feet (51.5 metres) at the bottom of the propeller. Divers are warned not to attempt to see this entire shipwreck in one dive – it is simply too large and too deep. For that reason, the Isle Royale National Park Service maintains two separate, distinct, and distant marker buoys on this wreck between June and September each year, one at the shallow bow and the other at the deep stern. Because of Lake Superior's size and position as the most northern of the Great Lakes, the water temperature rarely reaches even 50 degrees Fahrenheit (10 Celsius), and is much closer to the freezing point at the depth of the *Emperor*'s stern. But this cold water is pure and fresh, which means that a diver's gear needs no rinsing after a dive, and the underwater visibility could easily be 60 feet (18 metres) or better.

The most distinctive and interesting sights at the bow are the anchors and the large, open holds, in water from about 40 feet (12 metres) to about 80 feet (24 metres). The descent line to the deeper stern is positioned to drop the visiting diver onto the wreck at a depth of about 115 feet (35 metres). The deckhands' quarters are located on the stern's forward port side, in approximately 125 feet (38 metres) of water, complete with bunkbeds still in place and clothing still in drawers beneath the lower bunk. The ship's galley is a bit deeper, where pots and pans have been placed on top of the galley stove. Visiting divers frequently pose inside a huge dorade, or air vent, still in place on the roof of the aft cabin. Most of the ship's doors are open or missing, providing some degree of safety during any penetration. The *Emperor*'s stern railing sits at a depth of 150 feet (45.5 metres), with the propeller in about 170 feet (51.5 metres).

The *Emperor*, the magnificent ship that died in dreadful horror one night with tragic loss of lives, retains a silent, eerie mystique that compels every visitor to feel at least a tinge of restless apprehension when exploring her broken, shadowy remains.

Another crew cabin on the *Emperor's* stern remains relatively intact.

ABOUT THE UNDERWATER PHOTOGRAPHER:
Joyce Hayward, the "Lady of the Lakes," was passionate about the preservation and protection of Great Lakes shipwrecks. Through her underwater photography and public presentations, she educated people about the unique submerged cultural resources found in the Great Lakes. A mentor and role model, Joyce was a Member of the Women Divers Hall of Fame. With her passing in 2009, the Great Lakes lost the best friend they ever had.



Divers find an opening to the below-deck level at the deep end of the steamer *Emperor.*

ABOUT THE AUTHOR: Cris Kohl, maritime historian and archivist, underwater archaeologist, and prize-winning underwater photographer, has explored shipwrecks in the Great Lakes for 46 years. Since 1985, he has authored or co-authored seventeen books about the Great Lakes, most recently *Shipwreck Tales of Georgian Bay*. A Past President of the Underwater Archaeological Society of Chicago (2004), the 2008 recipient of the Our World – Underwater Lifetime Achievement Award, and the 2013 recipient of the Save Ontario Shipwrecks Marine Heritage Award, he has co-produced 17 documentaries about Great Lakes shipwrecks.

www.SeawolfCommunications.com

Yes, sign me up today for a one-year subscription for only $39.95 US

*Additional shipping charge outside the US contact *WDM* for details

Order by Fax

1-864-952-1291

Name

Address Apt.#/Flat

City, State Zip Country

Phone (Area Code - Number)

E-Mail Address

PAYMENT METHOD - DO NOT SEND CASH

- ☐ MONEY ORDER (U.S. Funds)
- ☐ CHECK (U.S. Funds)
- ☐ VISA
- ☐ MASTERCARD
- ☐ AMERICAN EXPRESS

☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐

Expiration Date ☐☐☐☐

Month/Year

Signature *Required

Mail to: Wreck Diving Magazine
P.O. Box 756
Taylors, SC 29687

or subscribe by: Phone (864) 244-9861

Email: heidi@wreckdivingmag.com

Online: www.WreckDivingMag.com

0220

The Perfect Gift!

Share ***WDM*** with friends, family, and business associates.

Just $39.95 for a one-year US subscription.

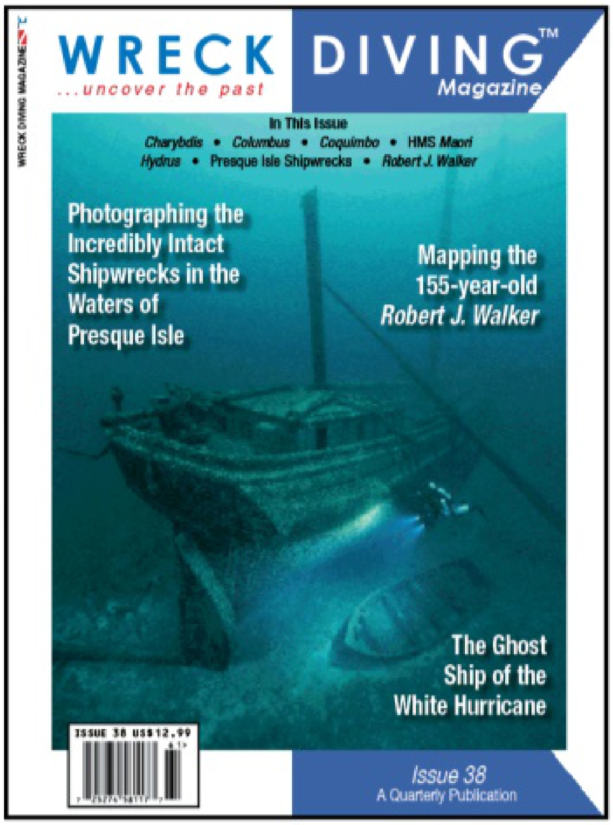
WRECK DIVING Magazine ...uncover the past
In This Issue
Antikythera • Guadalcanal Part I • HMS King Edward VII
Olive Branch • Shinkoku Maru • Shipwrecks of the Arctic
Shipwrecks at the Top of the World
Discovering the lost shipwrecks of the Arctic
The Return to the Ancient Antikythera Greece Shipwreck
The wreck site that prompted Jacques Cousteau to visit during his Greek odyssey in the 70's
Issue 39
A Quarterly Publication

Digital editions are also available.

Published quarterly.
Email:
heidi@WreckDivingMag.com
to order back issues
From $ 7.95 to $12.99 US
Plus S/H

Miss An Issue? Order Back Issues.

Supplies Are Limited!


WRECK DIVING Magazine ...uncover the past
In This Issue
Charybdis • Columbus • Coquimbo • HMS Maori
Hydrus • Presque Isle Shipwrecks • Robert J. Walker
Photographing the Incredibly Intact Shipwrecks in the Waters of Presque Isle
Mapping the 155-year-old Robert J. Walker
The Ghost Ship of the White Hurricane
ISSUE 38 US$12.99
Issue 38
A Quarterly Publication

Advertisement

DIVE CENTERS • SHOP CHARTERS
GEAR & MORE

Get Yourself Noticed in the MAGAZINE divers from all over the world READ! *Wreck Diving Magazine* is the leading authority on Technical & Recreational Wreck Diving worldwide.

WE OFFER EXCLUSIVE ACCESS TO SOME OF THE WORLD'S MOST FAMOUS AND NOT-SO-FAMOUS SHIPWRECKS. FROM PASSENGER SHIPS TO MERCHANT SHIPS, ANY SHIP OF INTEREST. WE ARE ***WRECK DIVING MAGAZINE*** –

For advertising and/or directory, please give us a call at: (864) 244-9861 or visit us at: www.wreckdivingmag.com

UNCOVER THE PAST
WRECK DIVING
MAGAZINE

WDM
WRECK DIVING
MAGAZINE

Different Colors
& Styles
Available*

Sizes Available:
M, L, XL, 2XL

Official Wreck Diving
Magazine
“Pirate at Helm”
100% Cotton T-Shirts

To place an order go online:
www.WreckDivingMag.com

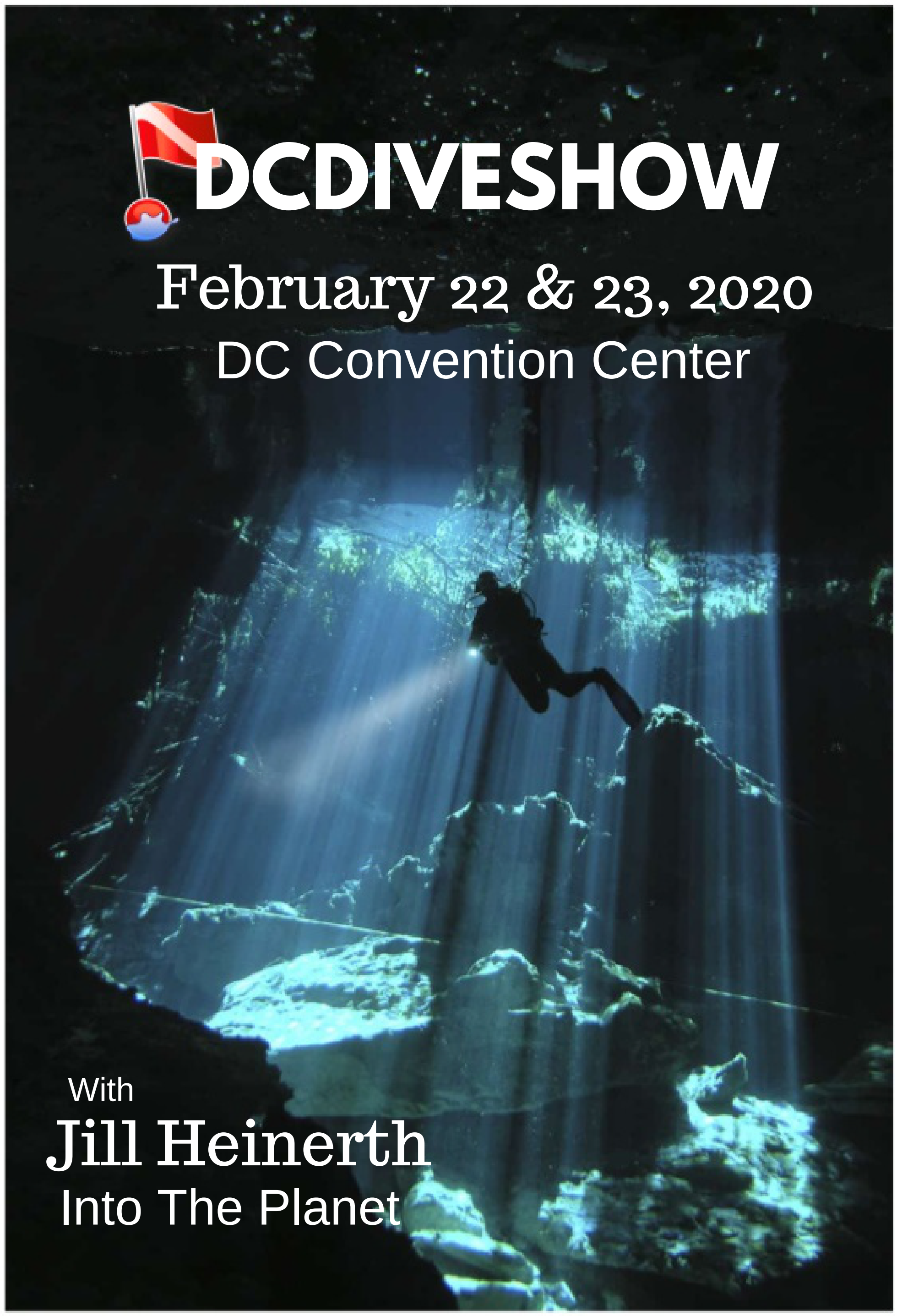
DIVE the GRAVEYARD of the ATLANTIC!

OLYMPUS DIVE CENTER
FULL SERVICE - RENTAL - CHARTER - SALES

The Better Way To Dive North Carolina

Visibility Averaging 75-100ft
Full & Half Day Dive Charters

Morehead City Waterfront, NC
(252) 726 - 9432
www.**OlympusDiving**.com



DCDIVESHOW
February 22 & 23, 2020
DC Convention Center

With
Jill Heinerth
Into The Planet